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TRANSPORTATION

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25 January 1983

USSR REPORT
TRANSPORTATION

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RAILROAD

BAM: PREPARATIONS FOR WINTER HIGHLIGHT PROBLEMS

Ashkhabad TURKMENSKAYA ISKRA in Russian 1 Oct 82 p 2

[Article by "TurkmenBAMstroy" sector foreman N. Grigor'yants, member of the TURKMENSKAYA ISKRA worker correspondent post on the BAM, under the heading "Worker Correspondent Post Report": "Preparing for Winter"]

[Text] Suddenly, the short BAM summer is over. The taiga has turned yellow. On 7 September, there was rain mixed with snow in Tynda. White caps have appeared on the neighboring hills. How is our collective doing?

On 20 August, the TSSR Ministry of Construction construction-installation train was ordered to prepare for work during the 1982-1983 fall-winter period. We are fully armed to meet the winter. A special commission has been created; its first task was to survey the industrial center and housing settlement site. The check showed that our dormitory and several rail-car housing units needed minor repairs such as storm windows. Brick stoves are being installed in five cars. Firewood is being procured and brought in.

More work needs to be done at the industrial center, such as testing the boiler and heating ducts; insulating the concrete-slurry unit, garage-parking lot and office, which is now in the dispatch building due to the lack of building materials, which kept us from finishing the office building.

The onset of winter is especially disturbing to machine operators. We have practically no spare parts, without which we will not be able to ensure the uninterrupted operation of motor transport in the cold. It will not be possible to do proper preventive maintenance on machinery.

The task at capital construction projects -- the rail terminal and kindergarten, on which we are now working intensively -- has basically been resolved, as the builders have completed the below-grade work and are already erecting the first and second floors. Next to them is a heated two-room rail-car housing unit with stove. One room is the work superintendent's, with work space for work superintendent A. Nuryyev and foreman-brigade leader A. Chukharev. The other room is a worker rest area where one can always warm up when it's -40°C.

This winter, we are receiving reinforcements. The staff of workers, engineering-technical personnel and employees has been replaced by a third in recent months. Many of the newcomers will be spending their first winter under the harsh BAM

conditions. Our task is to be preparing them for this even now. CPSU members Tat'yana Olegovna Mamedova, a senior engineer in the department of labor and wages, Lyudmila Mikhaylovna Pivkina, an equipment safety engineer, and Aydzhan Annaberdyevna Beliyeva, a geodesic engineer, have come from Ashkhabad.

I should like to take this opportunity to congratulate the republic enterprises and organizations which have sent us gifts of their output. These include the collectives of the No 2 Ashkhabak Garment Factory and the Chardzhou and Tashauz garment factories. In the name of all construction workers of the TSSR Ministry of Construction construction-installation train, we thank you, good countrymen, for your concern. Your support gives us a sense of contiguity with our native republic.

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RAILROAD

RAILWAYS MINISTER, SYSTEMS' DIRECTORS ADDRESS COLLEGIUM

Konarev's Speech

Moscow GUDOK in Russian 16 Dec 82 p 2

[Report: "Strengthen Discipline, Improve Style and Methods of Work: Speech of N. S. Konarev, USSR Minister of Railways, at General Meeting of the Collegium of the Ministry of Railways" under the rubric "Fulfill the Decisions of the November CPSU Central Committee Plenum"]

[Text] The November (1982) Plenum of the party's Central Committee became a major event in the life of the Soviet people, the Minister said. Its decisions met with an ardent, concerned response from all communists, all working people of our country and resounded broadly among the world public.

The Plenum approved wholly and entirely the practical activities of the Politburo of the CPSU Central Committee in translating into life the decisions of the 26th party congress. In his speech at the Plenum Yu. V. Andropov, General Secretary of the CPSU Central Committee, pointed to the continuity of the party's domestic and foreign policies, profoundly analyzed the state of the Soviet economy, and assessed the plan and budget for the third year of the five-year plan period. The decisions of the CPSU Central Committee Plenum and the seventh session of the USSR Supreme Soviet, which approved the 1982 plan for the nation's economic and social development, should become a guide to action for all of us. These documents require a new approach to all our work, greater practicality, resourcefulness and effectiveness.

In his speech Yu. V. Andropov, General Secretary of the CPSU Central Committee, subjected the performance of rail transport to severe and just criticism. The Politburo of the CPSU Central Committee is disturbed by the transport situation. The transport needs of the national economy are not being met. The indicators of performance of the railroads deteriorate with each year despite the substantial capital investments in their development.

The principal conclusion that should be drawn from the decisions of the Plenum is that it is not possible to keep working in such a manner. The transport plan, which reflects the needs of the national economy, should be fulfilled regardless of circumstances. This is the most important goal and it should be inviolable.

In the first 11 months of this year the transport plan was underfulfilled by 64 million tons, including such important freight as crude petroleum and petroleum products,

lumber and cement. Of the 17 commodities to be transported under the annual plan the targets were fulfilled for only two--hard coal and grain. All this has been sharply criticized at the CPSU Central Committee Plenum. This criticism should be grasped correctly by all railroaders and prompt them to take energetic and practical steps to rectify the situation more rapidly.

A principled attitude toward the shortcomings tolerated and, above all, the rectification of the situation through united work and spirit are the next serious conclusions that we all should infer.

A major cause of the unsatisfactory performance of rail transport has been the failure to approach in an efficiently organized manner the difficult conditions that arose. Instead of an energetic utilization of available facilities and mobilization of resources, there was a lot of palaver about the lag in the development of transport behind the rising volume of hauls. The marked capacity expansion has not been as effective as it should. Transport services to the national economy and passengers have been deteriorating instead of improving.

An end should be put to consumerist moods, since this is detrimental to the cause. Such a psychological readjustment is as necessary as air to breathe, and it should be accomplished immediately.

Through the efforts of the party and government, under Soviet rule we have created the world's most productive railroad system disposing of up-to-date equipment and highly skilled personnel. A reliable foundation for a good performance of transport has been established. And the fact that in the subsequent years the growth rate of hauls has been allowed to decline is something that we all are responsible for--the ministry's collegium, the heads of main railroad administrations, the railroad chiefs, scientists, and transport specialists.

Given the unanimous assessment of the existing difficult situation, there is a need for a deliberate, practical and competent analysis of the state of the matters and well-considered solutions. The collectives should be mobilized for an energetic implementation of these solutions. We are duty-bound to introduce a more demanding and disciplined attitude both within the central apparatus of the Ministry of Railways and on every railroad and railroad division, in every enterprise and shop and on every work station. Only with such an approach we can meet the transport demand of the national economy.

A specific requirement has been posed to transport: rolling stock should be promptly and punctually provided to every, I repeat, every enterprise, sovkhos and kolkhoz, to every consignor.

The heads of the railroads, railroad divisions and stations should be thoroughly familiar with the needs of all their consignors. They should be conversant with and even anticipate the situation in this respect and avert disruption in the conveyance of goods produced by work collectives under the state plan.

If for some reason rolling stock cannot be provided today or tomorrow, the heads of the railroads, railroad divisions and stations should not take refuge in silence while waiting for the next complaint. Instead, they are duty-bound to contact the

freight consignors and come to an agreement on how to remedy the situation as soon as possible. Such an approach will reduce greatly the number of complaints and claims. It could contribute to a better and more efficient cooperation with the enterprises served by the railroads. The struggle for the effectiveness of our production should be commenced by improving every particular quality indicator in all branches of the national economy. This is currently most important to raising the level of performance and smoothly fulfilling the plan of hauls. It is necessary to steadily increase traffic speeds, augment the weight of trains, increase freightcar loads, and completely utilize the length of station tracks when forming trains. It is important to reduce in all ways rolling stock demurrage on stations, expedite the hauls of local freight shipments and expand the routing of through trains.

Further, the Minister discussed in detail the status of the loading and unloading operations and named the railroad directors through whose fault the plan targets are not being fulfilled and loading resources are extensively wasted. The speaker also pointed to the absolutely intolerable attitude of certain railroad heads as regards the transfer of empty rolling stock. The practice of arbitrary rerouting of empty runs for the sake of parochial interests and to the disadvantage of the solution of general transport problems still continues. This must be condemned and resolutely rooted out.

N. S. Konarev further stated that in the last 5 years the turn-around time of empty freight cars on many railroads has grown from 5 to 10 hours. Counter runs are tolerated. We should re-examine thoroughly the problem of reducing the empty runs of rolling stock and draft and implement measures to reduce them to minimum and even eliminate any empty runs. ^{past} freight waiting to be loaded. This will solve certain problems and make work more effective.

We still have not satisfactorily organized the preparation of freight cars for loading. Despite the marked expansion of processing facilities, fewer freight cars are being readied. And their quality in no way meets the requirements. Of the five million boxcars and refrigerator cars passed through the processing stations, one-half has been rejected when provided for loading and returned for additional processing. Is this the right way to do things? This represents real losses whose elimination would increase loadings by tens of millions of tons!

Why is it that the railroad directors and collegium members comrade T. Shovskiy, director of a main railroad administration, have failed to make the rolling stock processing stations repay the investments made in them?! Why is the number of defective freight cars rising each year? Why is it that, despite the expanded capacities of the depots, more than 70,000 freight cars have not been repaired and, at the TsTVR /Main Administration for the Repair of Rolling Stock and the Production of Spare Parts/ plants, 60,000 freight cars have not undergone major overhauls? The responsibility for this should also be borne by the Deputy Minister comrade Golovaty.

As was pointed out at the Plenum of the CPSU Central Committee, considerable harm to the fulfillment of the plan of hauls is caused by unsatisfactory regulation of traffic flows on many network routes. This also is a major cause of our unsatisfactory performance. How else can it be considering that the traffic schedules for freight trains are fulfilled only 67.2 percent? Unless these schedules are adhered to totally, we will not change anything to the better. Railroad capacity is determined by the train schedules--our most important technological documents. As analysis shows, we have sufficient numbers of locomotives and locomotive brigades,

along with sufficient repair, maintenance and other personnel and adequate facilities to make trains run on time on the scale scheduled. But the actual number of train-kilometers fulfilled, for the network as a whole, is only 70 percent of that scheduled. How can such waste be tolerated? It is time for all managers and experts to give serious consideration to this matter.

It must be plainly stated that the responsibility of the heads of railroads, railroad division, stations and all enterprises associated with train traffic, for a strict observance of the traffic schedules has been impermissibly relaxed. Some even question whether a schedule is needed. This can be interpreted in just one way-- as an attempt to eliminate the organizing and disciplining principle of the entire transport process. The struggle to adhere to the schedules and eliminate the causes of their non-observance should at present become the principal direction of improving transport performance. We expect of the railroad directors that they take proper steps in this respect.

An important means of improving the performance of transport is a tighter utilization of the capacity of diesel-locomotive routes, which account for 68 percent of the overall extent of the route network, but on which nevertheless loadings usually are 40-60 percent below capacity. On these routes, the scale of diesel locomotive traffic also has declined in the last 6 years. This has resulted in a considerable overload on the already intensively operated electrified lines, thus unjustifiably complicating the overall performance of transport.

It is simply impossible to account for the strange behavior of those railroad directors who not only fail to assure an adequate passage of traffic flows on the electrified lines but also fail to take due measures to utilize the unused capacity of the diesel-locomotive routes. This concerns comrade Basov, the director of the Gor'kiy Railroad, who cannot seem to improve the performance of the Kazan' route; comrade Chernov, the director of the Kuybyshev Railroad, who does not adequately utilize the Bugul'ma route; and comrade Pisarev, the director of the Volga Railroad, who does not let the traffic flow pass from Volgograd to Anisovka.

The Minister further pointed out that the railroads and railroad divisions display a low level of operational planning and, especially, of the implementation of the plans for dispatching and traffic capacity. The flow of freight trains along the sectors and, particularly, junctions of separate railroad divisions and railroads is poorly organized. This has in places resulted in train traffic bottlenecks. Adequate discipline is lacking as regards the fulfillment of the technical plan of loadings for destination railroads. The lack of smoothness of loadings and the interruptions in the smooth flow of train traffic result in pile-ups of surplus rolling stock in various regions of the rail network and the concomitant loss of loading resources. There are considerable train demurrages at marshalling yards owing to violations of train-formation plans and the procedures for the routing of rolling stock.

Serious attention should be given to increasing unit train weight. This year the weight-norm target has been underfulfilled by 22 tons. The average weight per train has even decreased by 2 tons instead of increasing. It is pointless to speak of the utilization of fixed assets when it is considered that on the Northern and South Ural railroads the average train weight has dropped by 49 and 50 tons, respectively. What happened? After all, the extent of electric-traction routes on these railroads

has been widened in 1982, and they received new powerful locomotives. Why is it, one would like to know, that on the Northern Railroad the percentage of the dispatched incompletely formed trains has risen from 15 to 21? Why, comrade Shvaychenkov, is every fifth train incompletely formed when dispatched? There can be only one answer: this is a result of lack of control.

Further, N. S. Konarev analyzed in detail the state of transport equipment and the organization of its maintenance. At the Plenum of the CPSU Central Committee it was pointed out that the unsatisfactory organization of the repair and maintenance of locomotives is a major shortcoming in the performance of the Ministry of Railways. The technical condition and utilization of traction equipment have markedly worsened and the number of malfunctioning locomotives has sharply increased. The regulation of traction facilities has not been organized sufficiently effectively.

Much is being said about the difficulties involved in the maintenance of locomotives and about their low reliability, the considerable volume of repair work, and the shortage of spare parts and personnel. All this is true, but not to the extent depicted by certain directors of railroads and locomotive depots.

In the last 6 years, the Minister declared, the average annual volume of capital investments in the development of locomotive facilities has increased 80 percent compared with the 9th Five-Year Plan period. At the same time, the planned repair operations have resulted in updating only 21 percent of the locomotive fleet. This is attributed to the lack of spare parts, and to problems with the availability of various accessories. But in the last 6 years the shipments of spare parts for diesel locomotives by transport and industry plants increased 54 percent. It is also being claimed that there is a shortage of repair personnel. But 11,000 additional people have been hired. So where are the results? This question should be asked of the comrades Golovatyy, Nikiforov and Kel'peris.

The shortcomings in rolling-stock management are totally impermissible and affect operations very adversely. Considerable loss of loading resources is being sustained owing to the unsatisfactory condition of many freight cars. Train delays have increased 13 percent and the uncoupling of defective freight cars from trains has increased more than 10 percent. The maintenance stations do not correct all the defects. In some places selective repair has become a practice, leaving it up to the intuition of inspectors as to whether a defective freight car will or will not run the guaranteed mileage. As a result of such "guesswork," PONAB [expansion unknown] monitors halted more than 600,000 trains during the first 10 months of this year.

Recently the collegium examined the situation in rolling-stock management. The presence of a large number of defective freight cars that are not being repaired on an adequate scale can no longer be tolerated. What is more, in such a situation the main administration for rolling stock revises upward the demurrage norms so that the volume of repairs is artificially reduced.

Many railroads do not adequately introduce progressive repair techniques and advanced technology. Thus while on the Donetsk, Lvov, Dnepr and South Ural railroads the number of standard freight cars repaired per repair post amounts to 950-1,100 annually, on the Oktyabr, Southern and Transbaykal railroads it amounts to only 720-780 and on the Azerbaijan Railroad, 500. Given the same repair capacities, the differences range from 50 to 100 percent. The attitude of railroad directors toward rolling-stock management must be fundamentally altered. They should bear in mind that they are responsible for the performance of that branch too.

Further, the speaker discussed the status of track management. Although in a number of cases traffic conditions necessitated postponing track repair, the plan for regular and expanded track maintenance for the rail network as a whole has been successfully fulfilled. Major overhauls are conducted on a scale dependent on the deliveries of new rails, and they have been successfully fulfilled on the principal routes. This is a major accomplishment. Much is being done to improve the upkeep of tracks. All this is good. But the end-result is in no way satisfactory. Track conditions still require numerous restrictions on train speeds, which not simply interferes with but seriously complicates the normal flow of traffic. What is the worth of the fulfillment of planned track repair operations on, say, the Baltic Railroad, considering that the number of restrictions on train speeds has increased by a factor of 2.2 compared with the previous year? Why is it that, although the annual volume of planned repair operation on the tracks of the Transbaykal Railroad is being smoothly fulfilled, the number of speed restrictions on that railroad has increased 65 percent? The Minister stressed that shipments of new rails and track improvements should lead to faster train speeds.

Despite the extensive work conducted to strengthen and increase the reliability of electrification and power devices and signaling and communications gear, as well as despite the introduction of automation and industrialized maintenance techniques, considerable delays in train traffic still continue. The principal reason is the unsatisfactory maintenance of all that equipment in places.

The collegium voiced many complaints about the transport-industry enterprises. The Main Administration for the Repair of Rolling Stock and the Production of Spare Parts is not particularly disturbed by the operating problems of the railroads due to the shortage of spare parts. Even despite their downward revision, the plans for the repair of rolling stock and the production of spare parts are being underfulfilled. So far the plants have in practice been operating on a single-shift basis. But comrade Golovaty and the plant directors do not ponder ways of increasing the interchangeability [of parts]. Calculations show that increasing the coefficient of interchangeability by just one-tenth would increase by 500 the number of the diesel locomotives repaired annually. This possibility cannot be ignored.

The speaker devoted great attention to improvements in passenger hauls. A situation in which only 87 percent of [passenger] trains arrive on schedule at their terminal stations can no longer be tolerated. How can it be tolerated that the Moscow-Rostov train is several hours late each day? And that is a company train, moreover. What about the other, regular trains?

Many shortcomings exist in passenger services at train stations, particularly as regards the organization of ticket sales. Crowds of passengers in front of ticket windows often are tolerated. Concealment of vacant seats on trains and disgraceful instances of bribe-taking and extortion take place. And all this occurs despite the large numbers of inspectors and controllers!

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The Minister demanded that everything necessary be done to improve passenger service on the subways, especially in Moscow. The metro has always been a source of pride to the Ministry of Railways. Guests from the world over admire our underground lines. Their care should not be relaxed.

N. S. Konarev stressed that the collegium obligates administrators at all levels to take the most resolute measures to bring order into passenger service.

The speaker further declared that the traffic safety situation that has arisen owing to poor management and low discipline of work is highly alarming.

Rail accidents, even if they are without serious consequences, and also the numerous instances of malfunctioning and failure of equipment harm the performance of transport greatly. There is a continuing increase in the number of breakages of automatic couplers, collapses of supporting beams, dislodgment of rolling stock parts and their fall onto tracks, and fractures of axle rods and wheels. The inspection personnel at the Ministry of Railways and on the railroad lines, headed by chief inspector comrade Tyupkin, should reorganize its operations within a short period of time. Increasing the traffic safety should be viewed as a major socio-economic problem. No oversights should be tolerated in this respect. The slogan, "Traffic safety above all!" should become an immutable law of our performance.

In his speech, comrade Yu. V. Andropov, General Secretary of the CPSU Central Committee, declared at the Plenum of the CPSU Central Committee that the elimination of shortcomings in capital construction, is a central national-economic problem, the speaker said. This applies equally to transport. Capital investments are dispersed instead of being concentrated on the principal projects which, if their completion were given priority, would serve to eliminate the bottlenecks in the operations of the railroads. The construction of the projects is being protracted over the years and, as a rule, takes much longer than the norm.

The Minister analyzed the utilization of capital investments at the railroads. He pointed to the low quality and partial nature of the execution of operations on many construction projects.. This impedes the rapid activation of production capacities and immobilizes considerable material and financial resources.

Here the work on electrification is primarily concerned. Everyone remembers with what effort the Angara-Bira, Karaganda-Moimt, Orsk-Orenburg and Druzhinino-Krasnoufimsk lines had been built. A similar effort is required in building the Pogromnoye-Pugachevsk, Malinovoye Ozero-Lokot's and Muraptalovo-Orenburg lines, bypassing the Sverdlovsk hub, etc.

In addition to the shortcomings in construction, which should incontestably be eliminated more rapidly, mention should also be made of the fact that certain administrators sometimes display a dependent attitude. Instead of tenaciously working to utilize new capacities, they wait until the "last spike" is hammered in.

The designed capacities of the shops for repairing diesel locomotives in hoisted state in Karasuk, Pavlodar, Chu and Morshank are being slowly utilized despite the extreme need for these facilities, which had been built and accepted by railroad commission as far back as several years ago. The completed facilities at the Yudino, Murom and Kanash depots are being utilized just as slowly. This is happening even though the railroad experiences considerable difficulties in repairing diesel locomotives on the Kazan' route.

Thus it is clear that far from everything is being done to utilize the new lines, rolling-stock repair capacities and other production and service facilities accepted for operation in recent years.

The shortcomings in capital construction demonstrate that the directors of the railroads and main administrations of the Ministry of Railways have not drawn the proper conclusions from the directives of the party and government and the decisions of the collegium of the Ministry of Railways and the Ministry of Transport Construction, and that they are not paying the necessary regular attention to this important matter. The Ministry of Railways demands a change in attitude toward fixed assets as well as unsparing efforts to utilize the outlays invested in transport as rapidly as possible.

The fulfillment of the plan for construction and installation operations largely depends on the coordination of efforts, smoothness of work and practical cooperation between railroaders and transport builders. The greatest attention should be paid to strengthening that cooperation.

The Plenum of the CPSU Central Committee has emphasized the special importance of scientific and technical progress to greater and more effective production. The Ministry of Railways spends more than 20 million rubles annually on scientific research. In addition, about 10 million rubles is allocated for the development of specimens of new technology. The industrial ministries spend several times as much on R&D work relating to railroad topics. A large community of scientists, designers, technologists and other experts works on transport problems.

Unfortunately, these considerable forces and resources are not being utilized with sufficient effectiveness. The development of modern automated transport control systems and the application of progressive technological processes and advanced knowhow proceed extremely slowly.

In recent years considerable resources have been invested in computer technology. Currently all railroads, as well as some enterprises, operate computer centers. However, delays in developing the necessary software and the inadequate automation of the collection and transmission of primary information result in that this equipment is being of a certainty insufficiently utilized to solve the principal problems of traffic control. At the same time, the Belorussian Railroad has succeeded in solving many aspects of an effective utilization of computers, and this affects positively its performance. However, the Main Administration for Computer Technology, the VNIIZhT [All-Union Scientific Research Institute of Railroad Transport], and the Main Technology Administration are slow in publicizing and disseminating information about the Belorussian experiment.

The introduction of ASU [automated control systems] for traffic control should be concentrated in the hands of resourceful and literate managers and experts endowed with the necessary competences and powers.

Sometimes it takes many years to introduce new technologies. This is illustrated by the story of the control system for the container department at the Rostov Freight Terminal. Since 1974 more than a million rubles has been spent on introducing that system but so far it operates only in the information-retrieval mode, without

performing control tasks. Even now it is not certain just when will this system be completely put into operation. The apparatus installed has become obsolete. On the whole, a million rubles has been thrown out of the window.

An abnormal situation has arisen in regard to the introduction of automation. The technological level of the existing systems for the automation of interlocking and gravity shunting, as well as of signaling and communications gear, which at one time used to be the most advanced in the world, has begun to become inferior to the equipment already widely employed in a number of developed countries.

The Main Administration of Signaling and Communications, the Main Administration of Technology and the VNIIZhT have now been working for some 10 years to develop 6 types of automatic interlocking, 2 types of ALSN [automatic locomotive signaling systems], and 6 types of gravity-shunting automated systems. Some of them have been advanced to the prototype stage and are being tested and rejected. This is followed by new projects, which means a lot of wasted effort. So far not one of these systems has been made ready for practical application, and the research effort is continuing. As a result, of the 124 existing mechanized marshalling-yard humps only 4 have been automated, the last of these having been automated in Orekhovo-Zuyevo in 1973. In the 9 years since then not one additional hump has been automated. How is this to be viewed? Is that normal?

A major potential for making production more effective is an efficient utilization of manpower and material resources. This was directly pointed out at the November Plenum of the CPSU Central Committee. Unfortunately, it must be stated that a number of railroads does not satisfactorily fulfill the targets as to the increase in labor productivity--that principal indicator of production effectiveness. The attention paid to exploring and utilizing the potential for reducing labor expenditures has been relaxed. At many enterprises due attention is not being paid to problems relating to an effective utilization of working time. Workers are idled more often and absenteeism, both unexcused and excused, is increasing. Not infrequently, the output quotas for repair operations are overfulfilled [as published] 30-40 percent. This is accompanied by underestimation of the planned targets as to volume of operations and labor productivity. The Minister proposed to the railroad directors that they analyze the situation thoroughly and implement the collegium's recommendations for reducing the work force and increasing labor productivity. More attention also should be paid to exploiting the potential for the conservation of material resources.

N. S. Konarev next stated that yet another highly important problem is that of cadres. Today the main thing is that we should reestablish the party principle for the selection, education and deployment of cadres both within the central apparatus and on the railroads.

The Plenum of the CPSU Central Committee and the speech of comrade Yu. V. Andropov, General Secretary of the CPSU Central Committee, had emphasized: "Cadres should be deployed correctly so that the decisive sectors would be occupied by politically mature, resourceful, and competent individuals displaying organizational ability and a leaning toward innovations, without which it is not possible in our time to manage modern production successfully."

This is the key to the solution of the cadre problem. Unfortunately, in recent years we lacked that key. This has harmed the cause considerably and was a factor in the deteriorating performance of transport.

The Minister pointed out that many shortcomings in the performance of the Alma-Ata and Transbaykal railroads are largely due to entrusting the management of these railroads to individuals lacking the appropriate qualities.

For a long time the performance of such an important railroad as the Kuybyshev has been deteriorating. The gravest claims in this respect have to be posed to its director comrade Chernov. In 6 and one-half years nearly 500 million rubles has been invested in the Kuybyshev Railroad but nevertheless its performance now is much worse than it had been in 1975. The cistern tank-filling plan is not being fulfilled. The number of breakdowns is rising. The Minister warned comrade Chernov that, unless the situation on that railroad is remedied as soon as possible, the collegium cannot continue to entrust to him the management of that highly important railroad. Major criticisms were addressed to the directors of the Oktyabr, Southern, Odessa and certain other railroads.

The speaker stressed that every railroad director should grasp clearly that from now on his performance will be evaluated according to its results. The state plan is a law. The collegium will evaluate the performance of every administrator and manager according to the fulfillment of the plan. It is precisely in the strict implementation of targets, above all, that administrators demonstrate their sense of responsibility and discipline.

The Minister further stated that a thorough analysis of mistakes and shortcomings is primarily necessary because their elimination will serve to activate many reserves and identify additional possibilities for improving work. For 1983 rail transport has been assigned higher and greatly challenging targets. The volume of freight dispatching should increase by more than 70 million tons. A huge volume of shipments of coal and petroleum products will have to be handled. The conveyance of ore and metallurgical raw materials, lumber, and chemical and mineral fertilizers will markedly increase in volume. Moreover, the scheduled increases in the volume of hauls are not distributed uniformly throughout the rail network but mostly are concentrated on the railroads which happen to have the greatest operational difficulties. The quality of operations should be urgently improved so as to be ready already in December to start fulfilling the 1983 quotas.

Winter has come for the railroads. Considerable difficulties lie ahead, and they should be opposed with a high level of organization. Everything possible must be done to maximize the hauls of the freight that will be consigned to the railroads in the next few weeks. Toward the end of this year, which is a special year being the 60th anniversary of the USSR, the collectives of all the enterprises of the national economy aim to fulfill their planned targets and socialist pledges in honor of this notable jubilee. All strive to sell the output produced and fulfill their plan and economic indicators. All expect a well-organized performance of transport not in some distant future but today, now.

The Minister stressed that the accomplishment of the responsible tasks posed to rail transport by the November Plenum of the CPSU Central Committee requires a major re-

structuring. The style and methods of work must be changed beginning with the daily regulations and ending with the evaluation of the yearly performance. It is important to assure that every decision adopted and every directive issued by the Ministry be implemented according to the plan and help fulfill the plan, contribute to increasing the effectiveness of transport. The activities of the main administration should be closely coordinated with production. The practice of aimless assignments of experts to railroad lines in the capacity of mere "pushers" [Individuals assigned to prod for results] rather than of production organizers should be decisively discontinued. It has also been decided that the convening of selective conferences should be brought into order. The directors of railroads and railroad divisions should be more concerned with practical activities, visit more often the enterprises, locomotive and freight car depots and stations, talk with people and show interest in the organization of their labor and in their living conditions.

In conclusion, N. S. Konarev, declared that Soviet railroaders are distinguished by an exceptional spirit of devotion to work. In many indicators our railroads have achieved results that have no counterparts in world practice. The rail transport system of the USSR is the largest in the world. We have well-performing railroads whose performance is properly valued by the party and government. They have recently been awarded the Challenge Red Banners of the CPSU Central Committee, the USSR Council of Ministers, the All-Union Central Trade Unions Council and the Komsomol Central Committee. We have hundreds of superb work collectives which, given suitable management and efficient organization, will do everything to improve steeply the performance of transport.

On behalf of the collegium of the Ministry of Railways, on behalf of all of the country's railroaders, the Minister assured the party Central Committee and the USSR Council of Ministers that everything shall be done to successfully translate into reality the decisions of the November Plenum of the CPSU Central Committee.

Directors' Responses

Moscow GUDOK in Russian 16 Dec 82 p 3

[Reported speeches: "Elevate the Performance of Transport to the Level of New Tasks: Comments by Railroad Directors"]

[Text] I, L. Paristyy (Moscow Railroad):

The main direction followed by the Moscow Railroad in elevating its operational level is a broad propagation of the feats of labor approved by the CPSU Central Committee. This concerns primarily the feat of labor accomplished by the collective of the Lyublino Station in reducing freight car demurrage. Currently the Lyublino experiment has been applied to 23 of the Railroad's marshalling yards which together process more than 100,000 freight cars daily.

Practice has also confirmed the high effectiveness of another initiative of the Muscovites--the increase in the weight and length of trains. This served to increase routing capacity by an average of 10 percent without a corresponding expansion of facilities. On the most traffic-laden route, from Moscow to Kiev, the increase in

train lengths resulted in increasing the volume of hauls 15 percent. On the Ryazan' route along the approaches to Moscow the same measure resulted in reducing the number of regular freight trains by nearly 20 percent, which created a new reserve capacity..

Trains of increased weight and length should also be used widely outside the confines of the Moscow Railroad system. It is particularly important to increase to 75 car units the length of the empty cistern-car trains which we transfer to the Kuybyshev Railroads. The same goes for the empty gondola-car trains which we transfer to the Gorki Railroad. Under the new schedule now being prepared, the passage of 15 to 20 "filaments" of extra-weight and extra-length trains to the adjacent railroads has to be coordinated.

Speaking of the great importance of the well-known initiative of industrial, construction and transport enterprises in the Nation's Capital, comrade Paristyy announced that by now already 50 enterprises in the Moscow hub repair rolling stock. This coming January the remaining enterprises will join in this task. And during the first quarter of 1983 rolling-stock repair will also be organized at the oblast's enterprises served by the Railroad.

The Railroad itself, too, is increasing the volume of its rolling-stock repair. In recent years it has increased 24 percent. Currently additional measures are being drafted to broaden the rolling-stock facilities.

The recent analysis of the Railroad's performance shows that considerable reserve capacity could be added by a more efficient organization of passenger traffic. During the first and fourth quarters of the year seat occupancy in trains is less than 80 percent. This is equal to the operation of as many as 30 empty passenger trains daily. Some trains get filled only during the first half of the route and subsequently travel almost empty. A number of trains in regular daily operation is satisfactorily filled only two or three times weekly.

To augment reserve capacity, the frequency of passenger-train traffic in the fall-winter period should be re-examined.

V. N. Butko (Kemerovo Railroad):

The cooperation with, say, the coal industry works out so that that industry is blamed if the rolling stock is provided and the railroad is blamed if the rolling stock is not provided. A fixed norm for the size of coal dumps has been set for the coal enterprises of the Kuzbass, but in practice, every day during 1982, the dumps contained much less coal--nearly half of that specified in the quota.

Last October, for example, the railroaders met almost completely the request of the coal industry for empty rolling stock. To this end, and to the detriment of other types of freight waiting to be loaded, the Ministry assigned to us many thousands of freight cars. So what happened? Six thousand freight cars could not be loaded because no coal was available. As a result, routing capacity was burdened by needless dispatching of empty rolling stock while at the same time thousands of tons of various other freight remained not loaded on other railroads. And this was in October alone.

When you consider that a similar picture obtains in the other 11 months of the year, this means that the loading of millions of tons of freight has been forfeited.

The applicable norms for the availability of coal in dumps at the Kemerovougol' and Gidrougol' coal-mining associations exceed by nearly 2 million tons the potential of their extraction technologies. And all that non-existent coal is incorporated in our plan of hauls.

But wishes cannot be confused with reality! Unfortunately, nothing has changed in this respect. For the first quarter of 1983, during which the extraction plan will be increased by only 305,000 tons, the plan of coal shipments will be increased by 1.6 million tons--again owing to incorrect norms for coal in the dumps.

The USSR Gosplan and Gossnab should consider this question and help resolve it. That would be of real assistance to improving our work.

Further, comrade Butko pointed out that a special feature of the Kemerovo Railroad is that 95 percent of the loadings is conducted on the access tracks of enterprises. But the loading rate is slowing down with every year, and this results in a slowdown in the turnover of rolling stock on the Railroad.

While expanding their production capacities, the enterprises are doing almost nothing to expand their transport shops. As a result, rolling stock demurrage increases and loading resources are being wasted. Thus, on the access track of the "Karbolit" Plant rolling stock demurrage has grown from 14 to 53.2 hours in the last 6 years. At the "Azot" [Nitrogen] Kemerovo Production Association during the same time rolling-stock demurrage has nearly doubled in duration. A similar situation exists at enterprises of the Ministry of Ferrous Metallurgy. It is necessary to be more demanding toward the ministries so that they promote the expansion of industrial transport facilities.

A. G. Andreyev (Belorussian Railroad):

About a year has passed since the collegium of the Ministry of Railways had examined the Belorussian Railroad's experience in improving operational traffic control with the aid of computers. At present data on all trains and locomotives running on the Belorussian Railroad system are recorded in computer memory. This also applies to data on every loaded and unloaded freight car and on its suitability for next loading.

We have discontinued the transmission of bills of lading among the mutually corresponding freight stations of the Railroad because they receive all the information needed for forming and breaking up trains from the Railroad's computer center, via computers. The Railroad has attained a high quality of operational computerized recording of freight operations. Computers now provide data on freight-car loadings and the provision of rolling stock for loading operations to not only the many thousands of the Railroad's customers but also to the republic's ministries and departments. Our information services now earn us more than half a million rubles annually.

The monitoring functions performed by computers also effectively influence our operations. This, this year the penalties exacted from our Railroad for violations of the train make-up plan totaled only 28,000 rubles, whereas fines imposed by our Railroad

on the other railroads for similar violations totaled 2.6 million rubles. Positive results have been achieved in monitoring the formation of full-length and full-weight trains. In the first 10 days of December, throughout our Railroad system, only 0.7 trains were incompletely formed or of incomplete weight, each day, whereas the average daily number of trains with such violations received from the other railroads was 18.

The railroads which will introduce our automated system will obtain the same results and possibilities. The necessary information has been published and we are ready to transmit it.

Currently we aim to program our computers to provide specific recommendations for optimal traffic control. To this end, our neighbor railroads should operate the same systems. In this connection, the attitude of the Main Administration of Computer Technology is difficult to understand, since it recommends that our computer system be introduced on the Central Asian, South-Eastern and Baltic railroads which do not form together a contiguous whole and have not yet developed the necessary equipment for automatic control. At the same time, the well-equipped neighbor railroads--the Moscow, Oktyabr, Lvov and South-Western railroads were permitted to wait an additional 2-5 years before completing the development of standard automated systems of their own.

We believe it necessary to determine the extent of adjacent railroad systems on which the technology and software developed on the Belorussian Railroad is to be introduced.

A. M. Kadyrov (Central Asian Railroad):

Having analyzed the situation on our Railroad, we identified the foci of application of main effort: diesel locomotives, unloadings, and traffic organization.

The establishment of a brigade-operated column of round-trip locomotives served to complement the locomotive fleet on the Bukhara-Chardzhou-Beyneu route. The repair work force of the Railroad has been augmented by 1,000. A system of bonuses for depot personnel for keeping under repair fewer diesel locomotives than prescribed by the quota has been introduced. Monitoring of the maintenance of diesel locomotives by the locomotive brigades themselves has been intensified.

Capital investments and the utilization of internal resources served to increase the maneuverability and traffic capacity on bottleneck sectors and principal stations. Access tracks to marshalling yards were complemented with second tracks and bypasses and connecting lines were built. Parking trackage has been expanded. Currently the rail hubs operate stably on the whole even if under a considerable load.

These and other steps as well as increasing the weight norm per train by 400 tons and the formation of long through trains on the Bukhara-Chardzhou-Beyneu route served to increase by 25-30 percent the exchange of trains with the West Kazakhstan Railroad. At the same time the exchange of trains at the Chengel'dy Junction increased by 6 pairs. The volume of traffic within our Railroad system has increased, rolling-stock transfers rose by 2,500 freight cars, and the number of freight cars carrying local freight increased by 800 cars daily.

The executive committees of the oblast and city soviets of people's deputies operate special staffs for assistance in freight car unloadings. The heads of the republics regularly review the situation. High-level officials of the Railroad and its divisions are dispatched to the decisive sites. The organizational and technical measures taken served to increase unloadings by 600-800 freight cars daily.

A plan for eliminating shortcomings in the organization of operations has been drafted and is being implemented. Emphasis is placed on improving operational planning and drafting and implementing daily plans and shift plans-targets.

The persistent work to solve organizational problems of traffic on the Railroad and the strengthening of discipline and tightening of responsibility and smoothness of operations at all services will contribute to normalizing the train situation. However, we are perturbed by the disproportion existing between the development of the Central Asian Railroad and the adjacent railroads, which continues to grow. It would be expedient to draft a special plan for developing the Railroad with allowance for the commencement of the electrification of the Arys'-Khabast route in 1984.

A. M. Kozhushko (Donets Railroad):

Although the collective of this Railroad has this year been meeting more adequately the traffic demand of the national economy and improved the level of passenger service, we fully accept the criticism addressed in our name at the November Plenum. The problems facing us may be divided into two groups.

The first group includes the problems whose solution depends on the Railroad itself. This primarily concerns increasing productivity through an improved maintenance of fixed assets--locomotives and trackage. At the Krasnyy Liman Electric Locomotive Depot we installed a diagnostic facility which examines six electric locomotives at a time, thus markedly facilitating work, expediting operations and improving the performance of the depot.

As concerns our diesel locomotives, we augmented the personnel of the repair shops, especially by taking on more foremen, this being a factor that has a most direct bearing on the quality of repair. By means of these steps we can maintain the available diesel locomotives in operational condition. But the future should also be considered. The construction of a new depot is needed.

Further, the speaker dwelled on the question of cooperation with neighbor railroad systems. The neighbors of the Donets Railroad--the Southern and North Caucasian railroads, have erected insurmountable barriers at junction points. These railroads probably are experiencing some difficulties, but we should solve everything jointly. Compared with last year, nothing has changed on the Southern Railroad, and fewer trains even are received by it. I believe that a railroad which does not receive trains should bear the responsibility. This should affect not only the results of the competition but also the bonuses paid. As for the comrades who handle train reception well, they should be encouraged. Perhaps the payment of bonuses should be made conditional on the reception rather than the provision of trains?

V. M. Skvortsov (Sverdlovsk Railroad):

In recent years this Railroad has taken a number of steps to increase its traffic capacity. This served to halt the decline in performance and assure a stable reception of trains at junctions.

Today the Sverdlovsk railroaders declare to this collegium that they pledge themselves to receive without any delays all the trains transferred to them from the neighbor railroad systems.

Comrade Skvortsov dwelled on unsolved problems. The Railroad uses electric locomotives built in the 1940s and 1950s which are depreciated and obsolete. But they can still be used if traction motors are available. Currently there is a shortage of such motors. We remove them from the electric locomotives assigned for major overhauls and install them in the locomotives that are still operational.

For 12 years the Railroad has not been fulfilling the rolling stock turnover plans, and it maintains its operating fleet above the norm. As known, the plan is the law. But the plan should be objective and realistic if its fulfillment is to be feasible.

About capital investments: they increase with each year. But they all are spent on building a new line, while the outlays allotted for the development of the existing network remain at the 1975 level. But even so they are not being fully utilized by all the subdivisions of the Ministry of Transport Construction, even though each year the volume of operations they undertake declines. For example, the "Sverdlovsk-transstroy" [Sverdlovsk Transport Construction Trust] in 1976 had undertaken to utilize 17 million rubles but this year it utilized only 13 million.

The same thing applies to housing. The "Perm'stroyput'" [Perm' Track Laying Trust] had in 1976 built 10,000 sq m of dwelling area [for Railroad personnel] but this year it built only 4,900. So how can we solve the housing problem?

Special mention must be made of discipline. This year the number of infractions of discipline could be reduced 12 percent and personnel turnover was reduced 5 percent. But even so, radical measures are needed to solve this problem. Were rail transport, including the Sverdlovsk Railroad, to succeed in raising work and technological discipline to the needed level, we could improve all the indicators of our performance without any capital outlays. It is not for nothing that transport is called the blood brother of the Soviet Army. Transport discipline, too, should be commensurate. Perhaps appropriate revisions should be introduced in our Charter.

G. V. Tarunin (South Ural Railroad):

The principal operational problem on our Railroad is the continuing surplus of freight cars with Central Asian destinations. Owing to the failure to receive the trains transferred from the West Kazakhstan Railroad, 15,000 freight cars have already piled up at the Iletsk and Nikel'-Tau junctions. All the stations on adjoining sectors are jammed and it is with the greatest difficulty that we are able to maintain maneuverability on the southern segment of the Railroad.

Such a colossal number of freight cars cannot be immobilized! and if the existing lines are too limited to handle the flow of freight traffic then either their capacity should be widened more rapidly or a rigid loading quota must be introduced.

The situation is further complicated by the current practice of the planning of loadings. Certain branch ministries deliberately include in the plans for their enterprises a larger number of freight cars [for loading] than is actually needed. All the oblasts which we service--Chelyabinsk, Kurgan, North Kazakhstan and Orenburg, have fulfilled their sales plans during the first 11 months of this year. But our Railroad has not done so. So it happens that the enterprises quietly fulfill their sales plans while the Railroad pays them penalties for failure to provide rolling stock. For example, the Chelyabinsk Pipe Mill has this year overfulfilled the plan by 9,000 tons of steel pipe which it has shipped by rail. But at the same time we paid it 200,000 rubles in penalties for our failure to provide 3,500 freight cars for loading. The Main Freight Administration should put a stop to this practice and make the planning of loadings more realistic.

On the Trans-Siberian route the traffic capacity and the train processing volume are adequate. But the volume of hauls is rising. We perceive a substantial reserve to lie in increasing the unit weight of trains by using tandem pairs of VL10 electric locomotives equipped with special electronic devices of the VNIIZhT system serving to couple together electric locomotives into a single traction unit within 2-3 minutes. Currently 16 electric locomotives operate on the mountainous Chelyabinsk-Kropachevo segment are equipped with electronic robots. Each month they haul as many as 80 heavy-weight trains, which serves to increase traffic capacity on this segment by up to 20 train pairs monthly. We consider it expedient to organize the runs of heavy trains on entire routes such as: Chelyabinsk-Dema, without adjusting weight at Kropachevo; Chelyabinsk-Magnitogorsk, Chelyabinsk-Orsk.... On the Trans-Siberian route from the Kuzbass and Ekibastuz superheavy trains weighing up to 9,000 tons and carrying coal could be run. This would result in a 10-15 percent increase in traffic capacity without requiring additional expenditures. But to this end, electronic robots would have to be industrially manufactured.

Of course such measures alone cannot solve entirely the problem of enlarging traffic capacities--new construction also is needed. But the trusts of the Ministry of Transport Construction not only refuse to undertake construction and installation operations in the volumes needed but also, year after year, underfulfill their obligations. The share of railroad facilities in the capital construction plan of the "Yuzhural-transstroy" [South Ural Transport Construction Trust], for example, is not more than 50 percent, and in the plan of the Magnitogorsk Transport Construction it is even less--20 percent only.

N. P. Ovsyanik (Tselinnaya /Virgin Lands/ Railroad):

Our Railroad, which operates under difficult conditions, increases its freight dispatching rate with each year. But it is not easy: a very difficult situation has arisen. The rolling stock fleet exceeds the norm by 40 percent.

Our main goal is to cut our losses to a minimum in emerging from this situation. All of us must pay special attention to the organization of traffic, intensify the contacts between collectives at rail junctions connecting different railroad systems and organize mutual assistance, and unconditionally fulfill our obligations to neighbor railroads.

We can and should improve many aspects of the performance of junction stations without awaiting directives from the Ministry. To this end we need one thing: attentive and tenacious work to strengthen friendship and mutual trust.

Currently contracts for cooperation among Kazakhstan's railroads are being drafted. We expect support from the collectives of our neighbor railroads--the South Ural and West Siberian railroads. Every work collective should be included in these agreements with the object of prompting it to do for its neighbor even more than it is doing for itself.

So far, unfortunately, this has not been accomplished. Our Railroad concentrates on loadings and we sense especially keenly our dependence on those providing us with empty rolling stock as directed. If the rolling stock is available, we can pick up and load all our principal types of freight, but we cannot fulfill our plan without receiving subsidies. The target as to the allocation of rolling stock should be just as strictly fulfilled as the plan itself.

K. D. Kobzhasarov (Alma Ata Railroad):

The sharp criticism of the performance of rail transport which was sounded at the November Plenum of the CPSU Central Committee applies fully to our Railroad. In the last 2 years this Railroad has not assured the specified traffic capacity and it has been curtailing the numbers of trains it is ready to receive from its neighbor railroads. Thousands of freight cars have thus been immobilized.

A major reason for this situation has been the unsatisfactory condition of the diesel locomotive fleet. As of the present, repair of 30 percent of that fleet has been postponed.

We try to rectify the situation. Currently the Railroad is focusing its efforts on helping the diesel locomotive teams. Thus while of the allocated 2 million rubles for improving the Chu Maintenance Station only one million had been utilized in the last 5 years, we utilized the other million in the last 3 weeks alone. Round-the-clock work was initiated. We laid 29 km of pipe, 20 km of cable, and 10 km of station track and we installed 44 switches. So now the Chu Station has started operating.

Similar measures have been taken on many other stations. Suffice it to mention that, beginning in October, we laid about 50 tracks for dispatching, reception and marshalling operations, which resulted in markedly improving maneuverability on the stations.

Repair facilities had to be urgently developed. A shop for off-track repair of rolling stock in Dzhambul has been under construction for 4 years now, but only 1 of the 5 allocated million rubles has been utilized so far. To utilize next year the remaining 4 million rubles and put the shop into operation, we need help in shipments of structural components. This also applies to the construction of the shop in Alguz.

The supply of spare parts is a difficult problem. We receive them from other republics, and this is sometimes a matter of parts worth a few kopecks being transported to us over thousands of versts. Yet in Kazakhstan there is not a single plant manufacturing spare parts, although the republic's powerful economy is capable of their local production.

Many leading branches of the national economy are served by corresponding machine-building ministries. There used to exist at one time the People's Commissariat of Transport Machine Building. Now there is nothing like it. We do have the Ministry of Heavy and Transport Machine Building, and I cannot say just how much attention it devotes to transport machine building, but it is clearly not enough so far as rail transport is concerned.

R. Turganbayev (West Kazakhstan Railroad):

A difficult situation as regards traffic capacity has arisen in our region. In this sense, the performance of our Railroad has been justly criticized. We shall do everything to rectify the situation.

We receive considerable assistance from party organizations. Both in the republic as a whole and in the individual oblasts, transport commissions have been set up and provide unflagging and tangible assistance to our Railroad. They help establish practical and friendly relations with freight consignors and consignees. The plan of loadings is being fulfilled and unloadings have improved.

But there are many things we cannot attend to with our own efforts alone. We still lack facilities for the repair of locomotives, rail cars, and track machinery. Such facilities should be built. But our capital investments have been reduced, even compared with the previous year.

The personnel situation is disturbing. Only one of every four institute graduates assigned to this Railroad stays on. We have a chronic shortage of engineers. We try to train our own local cadres: an affiliate of the Alma-Ata Institute of Engineers of Railroad Transport has been opened.

It should be borne in mind that the climate in our region is severe and social and living conditions are slow to improve. The allocations for the construction of housing are being reduced and water supply has not been properly organized. To keep our personnel from leaving, they should be provided with adequate living conditions.

A. S. Petrov (Oktyabr Railroad):

The collective of our Railroad is taking various steps to elevate the level of its performance and it has launched a competition for a worthy welcome of the 60th anniversary of the USSR: it has overfulfilled the established plans for the third quarter of this year in all of their principal technical and economic indicators.

At the same time, the speaker noted that not all has yet been done on the Oktyabr Railroad to utilize transport resources more effectively and fulfill the established targets. This year, while the fulfillment of the plan of loadings by nomenclature has somewhat improved, the Railroad still lags behind in loadings of lumber, import shipments and certain other types of freight.

Much has been done on the Railroad to provide the conditions for fulfilling the targets in December and assure a high level of operations starting with the first few days

of 1983. In particular, on the Moskovskiy Marshalling Yard in Leningrad track facilities were improved and additional trackage was laid. This made it possible in November to expand hump shunting operations by an average of 762 freight cars daily and in the first 10 days of December the volume of freight car processing increased by 1,300 cars daily.

Pursuant to the directive of the Ministry of Railways TE-3 diesel locomotives had to be replaced with 2M-62 locomotives at the Volkhovstroy Depot by 1 June of this year. This necessitated obtaining 120 2M-62 diesel locomotives. But as of 1 December only 78 locomotives had been replaced, as their deliveries were discontinued. Depot operation with the aid of a heterogeneous fleet of locomotives causes complications in repair and operational activities.

There is also a shortage of 2M-62 diesel locomotives needed to haul ore from Kostomuksha, especially considering that in 1983 the hauls of that ore are to be tripled. It is also perturbing that the USSR Ministry of Industrial Construction has been remiss in building 17,600 sq m of dwelling area for railroad personnel in Kostomuksha.

For a number of years the track-improvement work on this Railroad has not been completely carried out. As a result, one-third of our main trackage, including the track on the Moscow-Leningrad express route, is being repaired behind schedule.

In conclusion, the speaker declared that the collective of the Railroad will streamline its selection and deployment of cadres and strengthen production and work discipline in all elements and branches of the Railroad in order to implement its plan targets successfully.

F. M. Kotlyarenko (North Caucasian Railroad):

This year the collective of the North Caucasian Railroad has assured on an emergency basis the conveyance of equipment for harvesting operations and of succulent fodder to regions suffering from drought.

Broad measures are being taken on our Railroad to expand traffic capacity and utilize the funds allotted by the state for improving operations. In 1983 the Western Bypass of the Rostov Hub should start operating, and this will be of great help to the operations of not only that hub but the entire North Caucasian Railroad. Great attention is being paid to improving technology on marshalling stations and in other elements of the transport process.

Further, comrade Kotlyarenko dwelled on problems yet to be solved. He declared that this concerns primarily traffic planning. Owing to the continuing failure to present freight for conveyance on the scale envisaged by the plan, the railroaders are not coping with their tasks. Month after month, the North Caucasian Railroad is assigned unrealistic plans for the conveyance of mineral fertilizers which are not available for picking up at, for example, the Nevinnomyssk Nitrogen Plant.

Or consider the rationalization of freight hauls by type of transport. For a long time now, Kuzbass coal has been transloaded from rail onto water at Perm', Syzran' and Kuybyshev and then again transloaded from water onto rail at the Volgograd and

Ust-Donets harbors whence it is carried 500-600 km to the Ukraine. This is how 1.2 million tons of this fuel is carried annually, and this requires 17,100 gondola cars. A similar picture obtains for the transportation of grain from Novorossiysk and Tuapse.

Another acute problem is that of eliminating short-run hauls. Much work in this direction is being done by the Rostov Institute of Railroad Transport. With the help of experts from that Institute we provided recommendations to the Rostov Oblast and Krasnodar Kray, as well as to the autonomous republics of the North Caucasus, for transferring short-run shipments from rail onto motor transport. Now motor transport carries 3.5 million tons of freight that previously used to burden us. But it still happens that freight is carried by motor transport from Rostov to Gor'kiy and Leningrad and by rail transport from Rostov to Azov and Taganrog. A clear and comprehensive program for conveying freight within the framework of an integrated transport system should evidently be developed.

A. F. Basov (Gorki Railroad):

On critically assessing the performance of railroad transport in the light of the decisions of the November (1982) Plenum of the CPSU Central Committee, we have to admit--and accept the responsibility--that the Gorki Railroad still is not meeting the transport needs of the national economy and is tolerating losses in the utilization of its facilities and resources.

One of the most acute problems is the constant shortage of loading facilities. As a result, more than 10 million tons of freight has piled up at the enterprises served by this Railroad. That freight includes fertilizers, lumber and iron ore. The resulting situation requires of the management and collective of the Gorki Railroad special measures to utilize rolling stock more effectively.

Improvements in the performance of this Railroad had been hampered by the unsatisfactory technical condition of the diesel locomotive fleet. We received assistance from the Ministry of Railways, and our own collective also has exerted its effort. Additional repair facilities have been put into operation, spare parts supply has been improved, and the organization of labor has been perfected. This has resulted in the expansion and improvement of the diesel locomotive fleet and, as of the second half of this year, reliable maintenance of locomotives.

In the second half of this year also, the Railroad has started to fulfill its plan indicators as to the utilization of locomotives, sector speeds have increased, and rolling stock demurrage at maintenance station and per loading operation has decreased. At the same time, trains are received without problems at all junction stations.

Plans exist to implement a large number of measures to strengthen the material and technical facilities of the Gorki Railroad in 1983. Considerable effort will be focused on the electrification of the Kazan' route, which, however, involves still quite a few unsolved problems. For example, on the Agryz-Naberezhnyye Chelny segment 350 switches have to be converted to electrical signaling but so far only 120 have actually been converted. The installation of pneumatic tube facilities on that segment still is not even in the planning stage either.

Toward the end of his speech Comrade Basov reported that the Gorki Railroad is ready to handle increased traffic on its main routes.

A. A. Alimov (Dnepr Railroad):

The collective of our Railroad has fulfilled the November plan of hauls and we are confident of fulfilling the December plan as well. Even so, we will not have coped with the yearly plan, our shortfall being of the order of 500,000 tons of freight. We are largely to blame for this, primarily as regards the organization of the hauls of ore and metallurgical raw materials. But the consignors too let down the railroaders.

What then is holding us back? The Railroad's track facilities are in unsatisfactory condition because we do not receive sufficient quantities of rails. As of the present some 1,500 km of rails do not meet the requirements of normal traffic and traffic safety.

Year after year, the Dnepr Railroad has expanding its facilities for the upkeep of rolling stock. In the last 10 years the volume of the repair of freight cars in uncoupled state has increased by a factor of 2.8 while during the same time loadings increased only 15 percent. As a result, rolling stock breaks down on other railroads and it is our Railroad that fixes it. It is necessary to emulate more broadly the initiative of the Moscow Railroad, whose personnel resolved to repair as many freight cars as possible with the aid of local industrial enterprises. This is of great help to the railroaders.

Further, comrade Alimov dwelled on problems of increasing the effectiveness of performance and labor productivity.

In conclusion, comrade Alimov pointed out that the Dnepr Railroad still is not introducing computers on an adequate scale. This should be remedied by primarily emulating the Belorussian Railroad.

G. I. Chernov (Kuybyshev Railroad):

Freight traffic density on the Kuybyshev Railroad is twice as high as the average for the national rail network as a whole. Hence we are devoting unflagging attention to increasing the reliability of our facilities and especially the locomotive fleet. Currently, our diesel and electric locomotives perform reliably on the whole.

As for the condition of rolling stock, it is not completely satisfactory. True, we fulfilled the in-depot repair plan, but we could have done still better. First, we are not fully exploiting our production capacities. Secondly, the supply of materials and equipment has not been sufficient.

But the worst situation exists as regards the conveyance of petroleum products, comrade Chernov stated. The Railroad has justly been criticized for this. We have accelerated the turnover of empty tankcars, but we cannot solve the problem of utilizing them after they carry chemicals and petroleum and kerosene freight. The reason is because the Railroad lacks facilities for washing the interiors of tankcars. There are two ways to solve this problem, in our opinion: either washing and steaming facilities are installed on the Railroad or tankcars are transmitted for cleaning to industrial enterprises.

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CSO: 1829/76

RAILROAD

CRITICISM EXPRESSED AT CC PLENUM EVOKES RESPONSE

Alma-Ata Railroad Improvements

Moscow GUDOK in Russian 26 Nov 82 p 1

[Article by A. Romazanov, road dispatcher at Alma-Ata: "To Confirm by Deeds"]

[Text] The criticism of the railroad workers voiced at the November (1982) Plenum of the CPSU Central Committee and the Session of the USSR Supreme Soviet applies fully to the collective of our railroad. For a long time the Alma-Ata Railroad has not met the needs of the national economy for shipments. We are profoundly aware of our responsibility for these shortcomings and are presently making a great effort to improve operations on the line.

We have commenced an effective competition for the better use of equipment and for improving the efficiency and quality of the shipping process. This will help accelerate the level of traffic and will free the railroad of surplus rolling stock. Workers from all services have joined the competition.

The winners of the last 10-day period were the train dispatchers of the Chimkent Division, Ye. Kozhamuratov and K. Kutyrev, the shift of the senior car inspector of the Dzhambul PTO [technical inspection point], G. Bakiyev, and the collective of the dutyman for the Dzhambul Locomotive Depot, V. Yekotov. We will make an effort so that the accomplishments of the pacesetters will be taken up by the entire railroad.

Leading Collective Pledges Hard Work

Moscow GUDOK in Russian 26 Nov 82 p 1

[Article by A. Sushko, machinist at the Nizhnedneprovsk Junction: "In Debt to the Pacesetters"]

[Text] In recent years, our depot has received much modern equipment. We are constantly introducing it into production, we are improving production methods and bettering working conditions. For three times already in the current year for the quarterly results we have been awarded the challenge red banners of the MPS [Ministry of Railroads] and the trade union central committee.

Unfortunately, rail transport is not meeting the tasks confronting it and its operation has quite rightly been criticized at the plenum. Hence we, as a collective of an advanced enterprise, can not only stand aside, but simply are obliged now to work even better and more efficiently.

A discussion of the plenum documents shows that we have reserves which could be put into serving the five-year plan. The depot employees are making concrete, professional-like proposals to improve the work of the enterprise.

In the collectives, special attention is now being paid to establishing close cooperation with the traffic commanders, with the station workers as well as organizing a competition for the efficient use of the locomotives.

Krasnoyarsk Freight Operations

Moscow GUDOK in Russian 26 Nov 82 p 1

[Article by V. Akulinin, party bureau secretary in Krasnoyarsk: "At Full Force"]

[Text] The communists and all the workers of the Krasnoyarsk Territorial Association of Industrial Rail Transport are carefully studying the documents of the November (1982) Plenum of the CPSU Central Committee and the Session of the USSR Supreme Soviet.

The concern for the state of transportation as voiced in the speech of the General Secretary of the CPSU Central Committee, Yu. V. Andropov, also concerns us, the employees of Promzheldortrans [Industrial Rail Transport]. We are endeavoring to make our contribution to improving the operation of our sector and are endeavoring to work at full force. For ten quarters running, our association has been the victor in the socialist competition among similar subdivisions of the ministry. A clear policy has been set of increasing executive discipline in all production management levels. We pay great attention to reducing car stoppages on the sidings of industrial enterprises and to raising labor productivity.

An atmosphere of mutual support and exactingness and high executive discipline, as the party has indicated, should in the future help in carrying out all the quotas and obligations.

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1829/66

RAILROAD

RAILWAYS MINISTRY OFFICIAL DISCUSSES SUBWAY SYSTEMS' DEVELOPMENT

Moscow PRAVDA in Russian 29 Nov 82 p 3

[Article by V. Kalinichev, USSR deputy minister of railroads: "Development for the Subway Lines"]

[Text] The Ministry of Railroads [MPS] has examined the comments on the shortcomings in the operation of the Moscow subway as put forward in the editorial "The Transport of the City" (PRAVDA, 15 July) and recognizes the criticism as valid.

Subways in many industrial centers of the nation right hold the leading place among other types of municipal passenger transport. Each day their services are used by around 11 million passengers. Of this number 7 million are carried by the Moscow Subway.

The subway network is developing. At present, subway lines are being built in Minsk, Gorkiy, Novosibirsk, Sverdlovsk, Kuybyshev and Dnepropetrovsk. During the current five-year plan, over 100 km of new lines will be built. By 1986, the length of our subway lines will exceed 450 km while there will be over 300 stations.

However, in a number of instances the growth rates of the large cities have outstripped the development of their subways. This is clearly apparent in Moscow. From 1973 through 1980, the number of passengers transported here increased by 34 percent while the length of the subway lines increased by just 23. Such a gap is particularly felt in the "peak" hours. At this time, four sections of the lines are most overloaded. These are the Zamoskvoretskiy, Zhdanovskiy, Kaluzhskiy and Rizhskiy; this also includes the 24 stations located on them. In just one morning hour, from 0730 to 0830 hours, these stations are used by 45 percent of the passengers carried over this time on the entire subway. All the designated sections lie along mass developed areas.

Unfortunately, such overloads have arisen because no consideration was given ahead of time to the scale and areas of new housing construction in the capital. Moreover, the expansion of certain types of municipal passenger transport has fallen behind the city's General Development Plan. These circumstances have served as the reason for adopting a decision to accelerate the construction pace of new Moscow subway lines. During the current five-year plan, this will

already make it possible to reduce the load factor at a number of transfer stations.

As a total, by 1986, we plan to build 29.4 km of subway lines, chiefly in the southern and southeastern rayons of the capital. At present, construction is being carried out on the Serpukhovskiy Radial Line. By the end of the five-year plan, it will connect the Library imeni Lenin Station with the southern limit of the city, Prazhskaya Station. The building of the Zamoskvoretskiy Radial Line will be completed and this will run from Kashirskaya Station to the new construction areas of Orekhovo-Borisovo and Brateyevo. In 1985, the Kalinin line from Marksistskaya Station will reach the center of the city. There are plans to build a third Novokuznetskaya Station in order to create a convenient transfer junction where train traffic is organized as it is at Nogin Square Station. Work has started on building the Timiryazevskiy Radial Line. It will run from Novoslobodskaya Station via the Savelovskiy Terminal to the north where residential districts are also being intensely built.

The completion of the first sections of the Serpukhovskaya Line in 1983 will relieve the Paveletskaya and Oktyabr'skaya transfer stations. In extending this line to Borovitskaya Station (1984), which will be connected by an underground passage with the Library imeni Lenin Station, the number of passengers will be reduced during the "peak" hours at "Park of Culture" Station. The extension of the Kalininskaya Line to the center of the city (1985) will lead to a decline in the number of passengers transferring from the Marksistskaya Station to the Taganskaya Station on the Zhdanovsko-Krasnopresnenskaya Line and so forth.

The MPS has instructed a group of specialists from its Main Subway Administration and the Moscow Subway to prepare proposals for reconstructing the existing Moscow subway lines with their technical reequipping. This will increase the capacity of the main lines and will ensure normal conditions for the transferring of passengers.

At the same time, the MPS is to improve subway operations.

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RAILROAD

DAMAGED CARS CAUSE SHORTAGE

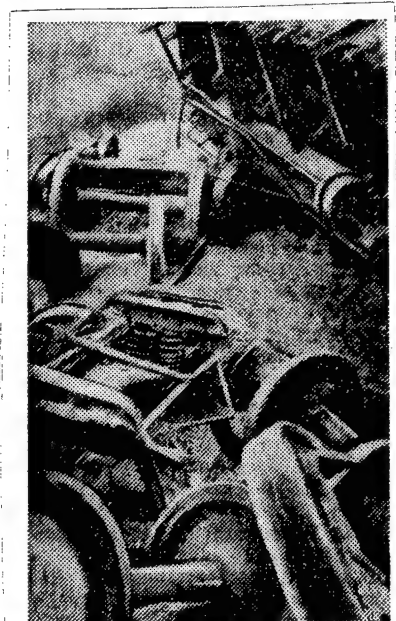
Damaged Cars

Moscow TRUD in Russian 9 Sep 82 p 2

[Article by labor veteran and honored railroad worker M. Zaborovskiy: "Rail Cars Are Being Broken..."]

[Text] Warped, smashed rail cars discarded in swamps, piled on top of one another, lying on sidings, standing in station backyards.... All this we see in photographs, but it is not the result of rail accidents. These are "monuments" to mismanagement, ones encountered in the Novokuznetsk Division of the Kemerovo Railroad. Industrial enterprises of this region are suffering from a shortage of boxcars, flatcars and tankcars, but are themselves careless with them. They often smash loading and unloading equipment and operate it improperly.

In just one year, 943 cars became casualties in the railroad's Novokuznetsk Division, causing the transport system 160,000 rubles in damage. Metallurgists are the "record-holders" in this. For example, the Kuznetsk Metallurgical Combine and the West Siberian Metallurgical Plant each break an average of one car per day. In five years, the Novokuznetsk Division of the Kemerovo Railroad lost 2,334 cars due to this and rail transport workers were deprived of 47 trains. A very dear price for mismanagement!



Need For Cars

Moscow TRUD in Russian 9 Sep 82 p 2

[Article by V. Zaytsev, Ya. Kraynik, M. Kanach and other workers (a total of 12 signatures) at the "Vtorchermet" shop in Borislavskiy: "...Waiting So Long!"]

[Text] We work in a shop in the "Vtorchermet" production association in L'vov. We have unfortunately now stopped accepting scrap metal, although they still keep on bringing it to us. Why? Very simple: railroad workers do not allocate us cars to ship out this valuable raw material for open-hearth furnaces. Mountains of metal pile up in our shop yard. It's been months, and only 20 percent of our applications for cars for scrap metal have been met. It was that way before, too, but this year, instances of short deliveries of cars are especially frequent. All this is reflected in our wages, which depend on meeting plans and obligations.

We are involved in work important to the country's national economy, but are forced to do this work at half-speed, slowly and inefficiently. Is this not mismanagement?

11052

CSO: 1829/50

RAILROAD

GRAIN LOSS CAUSED BY IMPROPER USE OF CARS

Losses Noted

Moscow SEL'SKAYA ZHIZN' in Russian 17 Sep 82 p 2

[Article by agronomist V. Volchenko, Minskaya Oblast, under the heading "Critical Signal": "Grain Scattered...On the Ties"]

[Text] Everyone knows the effort it takes to grow grain, so the farmers of Minskiy Rayon, Minskaya Oblast, are now working hard to increase the harvest. But it's not turning out to be easy to harvest what has been grown. It keeps on raining, there is a biting wind, the well-proportioned stalks of winter grains have become entangled in each other in spots and are flattened. In order to avoid losses, combine operators have been forced to reduce their speed and tempo, sometimes making passes twice over the same strips. If even that doesn't help, mowers take to the fields with scythes and sickles to gather what the machines aren't able to harvest.

Ear by ear, grain by grain, the harvest is collected on the farms, including on neighboring "Put' kommunizma" and imeni Gastello kolkhozes. The farmers are happy their labor has not been in vain. So it was bitter indeed when the grain growers recently saw this sad sight: mounds of grain scattered on the tracks and platforms of Pomyslishchi Station. True, this is nothing new. Each year, this sight is repeated on this spur when grain is shipped in the spring and summer. But the line's losses on the night of 22 August broke all records. An experienced eye could see that there was about a kilogram of grain on each running meter of the roadbed.

The grain growers were indignant, but the railroad workers displayed surprising indifference. A. D. Rummyantsev, chief of Pomyslishchi Station, explained that he had found out about the scattered grain only a couple of days before. The woman on duty, A. K. Yermolovich, standing that night 100 meters from a car which lost more than four tons of grain in seven minutes, says: "I saw nothing and I don't know anything..." No one at the station sounded the alarm or did anything. The dispatch service could have been used at least to warn that the car was leaking and thought could have been given to the grain that leaked out. No, the train kept on going, and the pile of rye where the car stood was taken by local residents.

Let's name those foremost to blame for the losses of output. The car with the grain was sent from Berestovits to its destination at Liozno, addressed to the 75th grain combine. The pile of grain was found to be complete because grain panels had not been installed in the car. Pomyslishchi Station is 15-18 kilometers from Minsk, location of the Minsk Division of the railroad and the Belorussian Administration of the railroad, which has a large staff of inspectors and monitors. The steps taken reduced to simply drawing up a document writing off the output. But who will call those to blame to responsibility?

Measures Taken

Moscow SEL'SKAYA ZHIZN' in Russian 28 Oct 82 p 2

[Article by D. Martynyuk, deputy chief of the Belorussian Railroad administration, under the heading "After SEL'SKAYA ZHIZN' Articles": "Grain Scattered... On the Ties"]

[Text] The correspondence published under this heading in the newspaper on 17 September 1982 has been reviewed in the administration of the Belorussian Railroad with the participation of BSSR Deputy Minister for Procurement M. Samonov. It has been established that the flow of grain from car No 2410057 occurred through the fault of workers at the Berestovitskiy grain-receiving enterprise, who failed to set up grain panels in the car. Berestovits Station workers failed to display vigilance in drawing up shipping documents.

The station people's court publically censured Berestovits Station workers S. Lapich and M. Shemet for violating regulations on accepting freight for shipment. Moreover, they were deprived of all bonuses for August 1982. Watch chief V. Davydenko was removed from his post and dismissed from the militarized defense ranks.

Minsk-Tovarnyy Station deputy chief B. Kozlov was reprimanded and sector commercial inspector A. Litvinov severely reprimanded for failing to promptly report and satisfactorily investigate the incident. All division and station chiefs were instructed to better supervise the shipment of grain freight.

The material was transmitted to the procurator's office so that criminal charges can be brought against those at fault.

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RAILROAD

BRIEFS

CEMA RAIL MEETING--A meeting of experts from the 8th commission of the committee of the Organization of Railroad Cooperation (ORC) of countries of the socialist community concluded on 22 October in Tashkent. Leading specialists from the transport ministries of Bulgaria, Hungary, the GDR, Cuba, Mongolia, Poland and the Soviet Union exchanged experience in using diagnostic methods in the system for determining the technical condition of diesel rolling stock and they discussed prospects for continuing joint work along this line. Conference participants were interested in the experience of repair workers of the Central Asian Railroad, which first used diesel traction half a century ago for regular freight and passenger runs. Specialists from the fraternal countries visited locomotive depots in Tashkent and Samarkand, familiarizing themselves with methods and installations developed by road specialists which permit determining the technical condition of a diesel locomotive without dismantling it. [Text] [Tashkent PRAVDA VOSTOKA in Russian 23 Oct 82 p 2] 11052

OCEAN AND RIVER

OFFICIAL DISCUSSES MINISTRY OF MARITIME FLEET'S FISCAL PLANNING

Moscow MORSKOY FLOT in Russian No 10, Oct 82 pp 18-19

[Article by Honored Economist of the RSFSR I. Levin, section chief of the Planning and Foreign Exchange-Financial Administration of the Ministry of the Maritime Fleet: "Finances in the System of Improving the Economic Mechanism"]

[Text] The Decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Increasing Production Efficiency and Work Quality" provides specific measures to raise the role of planning as the main element in the entire management system of the socialist economy and coordinated with the further development of cost accounting and the strengthening of the role of economic levers and incentives in improving work efficiency and quality.

The strengthening of the role of the five-year plan--the main form of planning and the basis for organizing economic activities--requires a serious improvement in the practice of long-range financial planning on all levels of national economic management.

For this reason, starting in 1981, in the five-year plan for economic and social development they have begun working out a long-range financial balance of the state with an annual allocation of expenditures as well as a balance of monetary expenditures. This balance is needed for establishing the correct ratios in the national economy between the monetary income of the population, retail commodity turnover, the volume of paid services and savings.

The balancing of the monetary expenditures and income of the population for the USSR as a whole as well as for the republics, krays and oblasts is one of the main conditions for ensuring the proportionality of the economic and social development plan, for the growth of the real income of the population and for stable monetary circulation.

Of important significance in improving the long-range financial plan is the elaboration by the ministries of financial plans with annual breakdowns simultaneously with the five-year plan and in accord with it.

The financial plan of a ministry generalizes the financial calculations relating to all types of the sector's activities. It reflects the expenditures

covered by internal funds, by financing, by long-term credits as well as the income according to these sources.

The financial plan of a ministry and its enterprises is expressed in the form of a balance of income and expenditures. In the process of compiling it, the internal reserves for increasing profitability and for improving the use of fixed and working capital are disclosed. The balance of income and expenditures serves as a means of state control over the production and financial activities of the enterprises and economic organizations. It is an operational document on the basis of which payments are made to the budget, financing is carried out and control exercised over the use of the budget-provided and internal resources of the economy.

The corresponding financial plans are also drawn up for the navigation companies, the ports and the plants. This is of fundamental significance for improving the entire practice of managing the finances of the sector and the enterprises and is one of the prerequisites for the consistent and broad application of systems of long-term economic norms in planning and incentives and for their effective functioning.

In this regard, it is particularly essential to stress the need for improving the dependability and quality of working out the long-range financial plans.

In the five-year sectorial economic and social development plans, the navigation companies and other enterprises of the MMF are given a quota for the total amount of profit broken down for the years. In the aim of increasing the economic independence of the ministries and the enterprises it has been stipulated that on the basis of the annual quota approved in the five-year plan and the adopted counterplans of the enterprises, the ministries themselves, with the approval of the USSR Gosplan, will set the annual amount of profit for the sector, providing the navigation companies and other enterprises with a quota for this. Here the total amount of the sector's annual profit plan should not be lower than the quota set for the given year of the five-year plan. This substantially increases the role of the five-year profit plan as a stable basis for working out the annual plan. This gives the enterprise collectives a firm guideline in financial development.

As is shown by economic practice, the plan quotas for profit (due to its comprehensive nature) are most liable to be adjusted. Here there has been the mass adjustment of the plans for their actual fulfillment in the aim of creating a favorable picture of carrying out the profit plan for a majority of the enterprises and the ministry as a whole. This reduces the effective functioning of the material incentive system for the production collectives. For this reason, at present, the ministries have been instructed to ensure stable indicators, not allowing an adjustment of the plan.

In the event of permitting such adjustments, the ministries and other managerial bodies which have permitted a reduction in the plan are to be held materially liable or disciplined and their leaders are to be deprived of bonuses for the basic results of economic activities completely or partially, but at least by 50 percent.

Of important significance for increasing the role of profit in planning (and, incidentally, the other approved indicators) is an assessment of the fulfillment of the five-year plan on all management levels in a running total since the start of the five-year plan, and for the annual plan, in a running total from the start of the year. This measure acts as a major barrier against the widespread harmful practice of understating the plan for the first three quarters of the year with an excessive overloading of the last months of the year. This provides an opportunity without great effort to obtain a bonus for 9 months with a major underfulfillment of the plan in the fourth quarter. Such a procedure for assessing the nonfulfillment of the plan in a running total in any quarter or in a year would automatically reduce the bonus in the following quarter (to recovering the amount of the nonfulfillment of the plan) and would thereby focus the collectives on systematically fulfilling the production plans over the entire year.

The observance of the principle of stability for wholesale prices over a 5-year period is of important significance for improving long-range financial planning practices, for improving its quality and actually assuring the long-range nature of the economic norms. This would also be aided by setting a fixed capital investment limit for all years of the five-year plan.

The functioning of the financial levers in the most concentrated form is reflected in the system of relationships of the enterprises and ministries with the state budget in the process of profit distribution. Profit is an important source of income for the USSR State Budget and the financial basis for organizing the cost accounting activities of the enterprises and associations. Approximately 60 percent of the total amount of profit in industry and more than 70 percent for the MMF goes to the budget. The remainder stays at the enterprises for financing planned expenditures for developing production and for forming the economic incentive funds. For this reason, the choice of effective forms and principles for distributing profit is of important significance for encouraging its growth on the basis of increasing the volume of cargo shipments, increasing income from overseas shipments and raising labor productivity in cargo operations at the ports.

The measures which have been set to improve the profit distribution system are based on the following.

In the first place, the profit distribution system is organically linked to the five-year plan and is set on a basis of long-term stable norms differentiated for the years of the five-year plan.

Secondly, it presupposes the further development of cost accounting relations with the gradual introduction of cost accounting work methods in the activities of the navigation companies and their subdivisions.

Thirdly, the navigation companies and the sector as a whole have a greater interest in improving work and on a normed basis increased resources left at their disposal is guaranteed depending upon the end results of economic activities.

Fourthly, the economic responsibility of the navigation companies and the sector is increased for the unconditional fulfillment of the financial plans and the obligations to the State Budget.

Starting with the 11th Five-Year Plan, the ministries (as they are ready) on the basis of the quotas approved in the five-year plan, are given a stable profit deduction rate (differentiated for the years) for the profit left at their disposal. This portion of the profit is earmarked for capital investment financing, for repaying bank credits and interest on them, for ensuring an increase in working capital and expenditures on scientific and technical development and for forming an economic incentive fund and other financial expenditures relating to the sector's development.

For increasing the economic responsibility of the ministries in carrying out their obligations to the budget, the decree envisages that in the five-year plans with an annual breakdown they will be given in accord with the norms an absolute amount of profit deductions for the State Budget. Here if in any year of the five-year plan, the approved profit plan is not fulfilled, then the ministry must make the payments fully to the budget from a corresponding reduction in the money left at their disposal.

The normed profit distribution method is not confined solely to the upper sectorial management level. The ministries have been permitted, proceeding from the total amount of profit remaining at their disposal and considering the production features and profitability level, to set the corresponding normed profit deductions for individual enterprises.

The economic mechanism provides a greater impact for the financial levers on the better use of resources available to the enterprises.

The decree envisages a number of measures aimed at increasing the incentive role of the payment for productive capital. There are plans to set the payment for productive capital, as a rule, at an amount of 6 percent. The payment for above-norm uncredited inventories and uninstalled equipment is to be made from the profit left to the disposal of the enterprises. At the same time, in fulfilling the production and profit plans with a smaller amount of capital than stipulated by the plan, the savings in the capital payment is left to the enterprises. Benefits related to the capital payment have been restricted.

It has also been established that in using cheaper materials in production, in comparison with those employed and in maintaining quality on the previous level, the wholesale prices for these products are to remain unchanged until the end of the five-year plan.

The pending elaboration and approval of economically sound working capital rates for the navigation companies, ports and ship repair yards should be aimed at the rational utilization of material resources.

The decree envisages the introduction of a payment for water, a new payment for the budget. This must encourage the better utilization of water resources by industrial enterprises.

Another area for intensifying the role of financial levers is the increased rate for state social security as of 1 January 1982.

For the enterprises and organizations of the MMF, the rate for state social security has been set at 10 percent of the wage fund instead of the previous rate of 6.7 percent. This has been done to more fully cover expenditures relating to the reproduction of the labor resources, for correctly determining the economic effect from the introduction of new equipment and for strengthening incentives for the rational use of manpower.

Financial levers have been assigned an important role in carrying out measures related to accelerating scientific and technical progress. There is to be a further improvement in the system for financing scientific and technical development. In all the ministries a unified scientific and technical development fund is to be formed from profit on a normed basis.

In the MMF, the unified scientific and technical development fund has existed since 1 July 1975. This fund brings together expenditures both for scientific research purposes as well as for developing new equipment. This provides a good basis for the comprehensive financing of the entire "science--production" cycle and the necessary maneuvering of resources. The experience of the MMF and a number of other ministries has shown that the creation of such a fund has a positive effect on accelerating technical progress in the sector and increases the effectiveness of scientific research. Over the years of the experiment in the MMF, the time for working out scientific research has been shortened and the economic effect from its introduction has risen substantially.

Equally promising is the ongoing development and improvement in the system of economic incentives to improve product quality.

The effective introduction and functioning of the financial mechanism to a significant degree will depend on the level of financial and economic work carried out in the navigation companies and in the sector as a whole. This, in turn, places new, high demands on the work of the economic services and raises their responsibility for introducing the new management methods.

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CSO: 1829/62

OCEAN AND RIVER

AIR CUSHION PLATFORM'S SPECIFICATIONS

Moscow MORSKOY FLOT in Russian No 10, Oct 82 pp 40-41

[Article by the chief designer of the project at the Leningrad Central Planning and Design Bureau, V. Vladimirtsev: "Platform on Air Cushion" under the heading: Fleet Equipment.]

[Text] In recent years much attention is being given to the creation of modern transport equipment for the maritime fleet to use in serving the northern regions of our country. Powerful icebreakers and icebreaking cargo ships are being designed and built. All these powerful and expensive ships will be unable to operate effectively unless reliable floating equipment is created at the same time for unloading them onto unequipped shores.

One such means for delivering cargoes onto an unequipped shore is an platform on an air cushion.

In the period 1977-1980 the Leningrad TsPKB [Central Planning and Design Bureau] and the Northern Shipping Company did much work on the development of a marine air-cushion platform with a 40-ton cargo capacity (MPVP-40). Two designs of such a platform were worked out. The two platforms were built and comprehensive full-scale tests were conducted on them.

Principal Characteristics of Platform

Length overall	20.2 m
Width on deck	8.5 m
Height of side	1.0 m
Displacement:	
empty	29.0 t
loaded	69.0 t
Fuel limited endurance	24 hr
Crew	2

The hull of the platform is made of carbon steel. The framing system is transverse. The thickness of the loaded part of the deck and the sides is 4 mm. The thickness of the decks and bottoms of the wing tanks is 3 mm. The hull is divided into three compartments and the platform remains afloat when any one of them is flooded.

The type V2-800TK-S3 engine has a rated power of 441.3 kW (600 hp). It is installed in the stern and, through a reduction gear, drives two VTsD-11 fans each with 1,800 m³/min capacity. Next to the engine on the left side is the operator's cabin, and on the right side is a battery box and a heater for warming the lubricating oil and engine coolant before starting in winter time. A folding signal mast is mounted on the operator's cabin. In the stern a guard rail is provided (for the protection of the fan housings) which turns into a bulwark and protects the intake grills of the fans from splashing water. Guard rails are installed all along the sides of the platform. Anchor gear, an access ramp, bitts, chocks, eyebolts, and tackle for moving loads onto the deck are installed in the bow.

The principal auxiliary mechanisms, pumps, and a direct current generator are mounted on the engine. The power plant includes the PZhD-600 heater and a VTI-4 air cleaner. The engine cooling system is the closed type with a radiator. Starting is done by an electric starter. The main engine is controlled remotely from the cabin where there is a panel with the necessary monitoring instruments. The 1.2 kW generator and the battery are the sources of electrical power.

The VTsD-11 fan with a 1.1-m diameter impeller develops a static pressure of about 5 kPa. The impeller wheel is welded and made of stainless steel. The blades are welded three-layer structures. Their shells are stainless steel and they are filled with foam plastic. Such construction provides a light weight, high-strength impeller which is secured to the shaft by means of a hub and conical pins.

The transmission for the fans consists of a flexible coupling, a friction clutch, a reduction gear, a flanged connecting sleeve, and three cardan shafts.

The platform has a 50 kg Matrosov anchor. For raising the anchor and the access ramp and for operations with the mooring gear, two type ShR-1 manual capstans are used, each with a pulling force of 4.9 kN. The access ramp, consisting of four separate ramps each with 600 X 1325 mm dimensions, provides for the passage of wheeled and tracked equipment and the transshipment of cargo. In the stern a special rudder and stabilizer in the form of two metal wheels is installed to hold the platform on course when being towed at sea or on land. Four eyebolts welded to the hull provide for lifting the platform.

A chambered scheme was adopted for the air cushion on MPVP-40. It has an area of 14 m² with pressurized flexible skirts. The side skirts are balloons of the open type with segments in the zone of the air cushion. The bow skirt is a balloon-segmented open type and the stern skirt is a balloon-segmented closed type. The transverse skirt is of the segmented type.

The air cushion chamber is divided by the side segments into a central and two side chambers with a lower pressure. The flexible skirts for reducing the discharge rate of air from the zone of the air cushion, provide for the longitudinal and transverse stability of the platform. Air from the two fans is fed into the balloons of the side skirts, then into the balloon of

the stern skirt, and next, through a slot into the stern chamber of the air cushion where pressure is created. In the side chambers the pressure is always lower by 30-40 percent than in the central chamber where the air is fed in from the fans through the balloons with little pressure drop. Such a sectionalizing of the air cushion reduces air discharge and dust and spray formation, increases the transverse stability of the platform, and eliminates the undesirable vibrations and self-excited oscillations of the side balloons. For convenience in installation and repair the skirt is divided into sections, and, to increase wear resistance, along the whole length of the side balloons the lower parts are reinforced.

For normal operation it is necessary to trim the platform to even keel. This is done by shifting the load. In the unloaded condition, this can be done by the exclusion of a part of the air cushion area from operation by means of the sectionalizing transverse skirt.

The trials showed that the adopted power plant, hull structure and system of bounding the air cushion allowed platform operation in a state 4 sea. The operation of the platform assumes it will be towed by a motor boat over the water portion of a route and by tractor on land. An air bleed-off with a special controlling throttle is provided on MPVP-40 to produce a reaction force. With this, the platform can move over water at a speed of about 2.5 knots. This permits it to traverse shallow water parts of route independently.

PHOTO CAPTION

An air-cushion platform has been developed to provide for unloading on an unequipped shore in serving the northern regions of our country.

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OCEAN AND RIVER

COAL PORT DESIGN, OTHER GIPRORECHTRANS PROJECTS DISCUSSED

Moscow RECHNOY TRANSPORT in Russian No 9, Sep 82 pp 38-40

[Article by N. Seleznev, chief engineer of the State Institute for Planning in River Transportation: "Design and Build Economically"]

[Text] In the decree of the November (1981) CPSU Central Committee Plenum it is indicated that when accomplishing the important and complicated tasks, which have been outlined for the 11th Five-Year Plan, particular attention should be devoted to the considerable improvement of capital construction and the economical consumption of metal, fuel, electric power, raw materials, materials and financial and manpower resources.

During the past five-year plan, owing to the introduction of advanced technological, design, space-layout and other technical decisions the State Institute for Planning in River Transportation achieved a decrease of the cost of construction by 18 million rubles and saved 11,000 tons of metal, 16,000 tons of cement and 9,000 m³ of lumber.

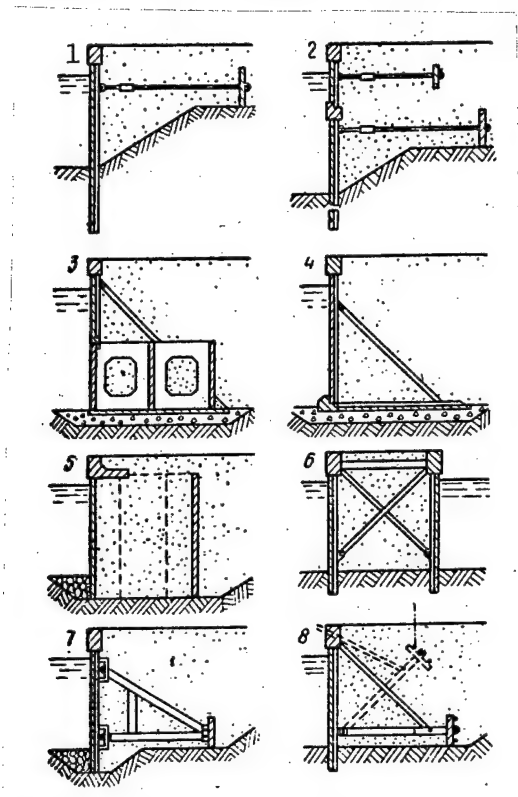
The institute was one of the first to respond to the initiative of the All-Union Scientific Research Institute of Planning of Hydroprojects imeni S. A. Zhuk to increase the scientific and technical level of designs and to decrease on this basis the estimated cost of construction of projects and to save manpower and material resources.

In the obligations of the collective of the institute it is envisaged for the Konstantinovskiy Hydraulic Development on the Don, the mechanized berths of the common carrier bases in Nadym and the second line of the underwater crossing over the Volga of the Togliatti-Odessa ammonia pipeline to decrease the cost of construction by 600,000 rubles, while for the projects, which will be built in accordance with plans of the institute during the 11th Five-Year Plan, to ensure a decrease of the cost of construction by 3-5 percent and to save 5 percent of the metal, 4 percent of the cement and 5 percent of the lumber. A plan of organizational and technical measures has been drafted at the institute for the accomplishment of these obligations.

Let us cite several examples and recommendations from the practical experience of the institute in the economical designing and construction of various projects.

Precast reinforced concrete components, which were developed by the State Institute for Planning in River Transportation and in which, as compared with the previously used walls made from metal sheet piling and bulk concrete walling, the consumption of metal and cement is one-third to one-half as much, were used extensively in the construction of port berthing facilities. The eight types of these structures are cited in Figure 1.

Figure 1. The Recommended Designs of Berthing Facilities



Reinforced concrete sheet pile walls are used on sandy and soft loamy bottoms. With a height of the walls of 10-11 m the sheet pile is used with a single tie rod (type 1), while with a greater height a superstructure with an additional type rod is installed on the sheet pile (type 2). Such walls were used at many ports on the Volga, Kama, Oka, Moscow and Irtysh Rivers.

On rocky and solid loamy bottoms berthing facilities made primarily of reinforced concrete monoliths (type 3) and walls of an angular shape (type 4) are used. The reinforced concrete monoliths are assembled from flat reinforced concrete slabs on the shore area, and then are lowered into the water and are towed to the site of their installation, where a superstructure made of corrugated reinforced concrete slabs, which have been anchored by metal tie rods, is installed on it. Such a design was used when construction the freight and passenger berths of the Perm Port. Angular walls, which consist of vertical and horizontal components which are interconnected by angular metal tie rods, were erected "dry" in Kuybyshev, Syzran, Naberezhnyye Chelny and other sites.

At Volgograd and Kherson their construction was carried out "into the water."

A substantial drawback of the indicated gravity walls is the need to build for them underwater stone (crushed stone or gravel) beds with the very careful leveling of their surfaces, which considerably complicates the construction. In this connection new types of berthing facilities, which do not require stone beds: structures made from well-shells (type 5), double-row walls (type 6), walls with sliding tie rods (type 7) and walls with two tie rods (type 8), have begun to be used in recent times.

The well-shells, which were used when constructing the berths at Astrakhan and Khlebnikov, were made in the form of octahedrons made of flat reinforced concrete slabs with metal fasteners. The installation is carried out by a special jig. Although the walls made from well-shells do not require the construction of stone beds, the cost of their construction in connection with the large consumption of reinforced concrete is not less expensive than the construction of walls of an angular shape.

The double-row wall (type 6) consists of reinforced concrete vertical components, which are frequently buried in the ground and are interconnected by slanted tie rods. In the upper part the rows are additionally connected by horizontal stay rods. Such a wall is used when building both one-sided wharves (quays) and two-sided wharves (piers). This wall is approximately 25 percent more economical than well-shells, since considerably less reinforced concrete is consumed for its production. Such components were used for the specialized berths on the Ivankovskoye Reservoir and for the guide walls of the locks of the Seversk-Donetsk system.

The wall with sliding tie rods (type 7), which was used at the wharf of Troitskoye on the Klyazma Reservoir, consists of reinforced concrete facing members and anchoring devices in the form of rigid frames with rear plates. The facing members with the anchoring devices are connected by means of sliding metal fasteners. All the parts of the wall are preassembled into blocks, which are then lowered into the water by a hoisting crane and a special crossbeam. The underwater ditch in front of the wall is filled with rock. In cost this structure is approximately equivalent to the wall of type 6.

The wall with two tie rods of type 8, which was built at five spots on the Canal imeni Moskvyy, consists of reinforced concrete sheet pile members, upper and lower tie rods and anchor plates. The sheet pile members are installed along with the lower tie rods, which are hinged to them and have been turned to the vertical position. After the partial sinking of the sheet pile members into the bottom (by means of undercutting or vibratory pile drivers) the upper tie rods and anchor plates, which are then lowered together into the water, are attached to the lower tie rods. This wall owing to its separate assembly by light-weight hoisting mechanisms and the absence of an underwater rubble mound is approximately 15 percent more economical than the preceding structure of type 7.

The above-cited characteristics of berthing facilities makes it possible to select from them the most economical ones under different geological and hydrological conditions.

When designing port facilities it is necessary to strive not only for the decrease of the cost of the berthing facilities, but also for the maximum shortening of their length. This can be achieved by the use of the most advanced technological arrangements of the handling operations, which make it possible to decrease the required number of berths and accordingly the overall length of the berth front.

The coal-handling complex, which was planned by the State Institute for Planning in River Transportation at Kambarka (Figure 2), can serve as an example of such a solution. It is a berth, which is equipped with two rotary car dumpers, general-purpose warehouse mechanisms, a system of belt conveyors and two dock-side loading machines. The capacity for the loading of coal onto ships at the berth is 2,500 tons/hr. For the purpose of decreasing the expenditures of time on unproductive operations of the transfer equipment berthing dolphins are envisaged for the mooring to them of an empty motorship, which after the departure of the ship loaded with coal immediately approaches the berth for loading. The used arrangement of the mechanization of handling operations as compared with crane arrangement decreases the number of berths to one-third, the cost of construction to two-thirds and the number of production personnel to two-fifths.

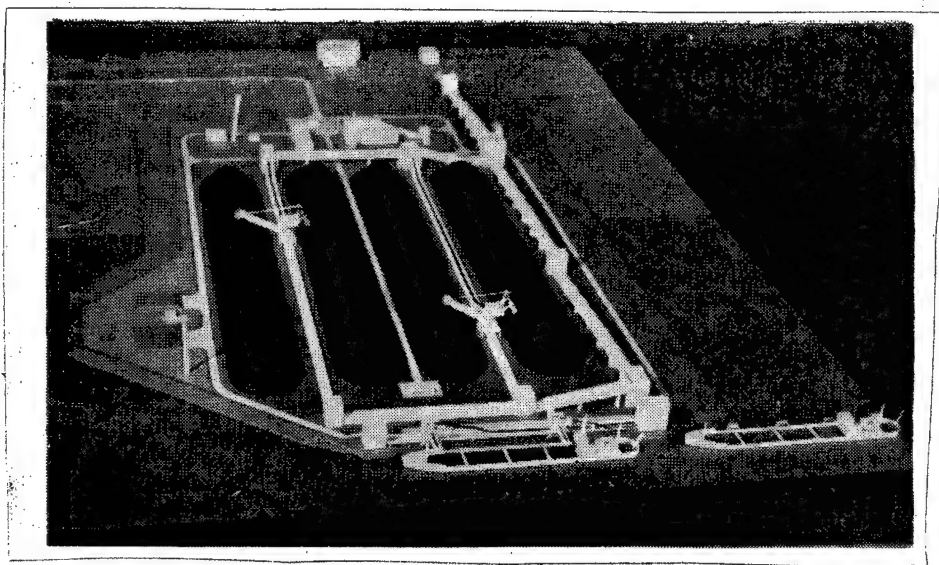


Figure 2. Coal-Loading Port (Model)

The berth for the unloading of large heavy equipment in the area of Kazan, which was built in accordance with the plan of the State Institute for Planning in River Transportation, is another example of the decrease of the cost of construction by means of the use of efficient technological and design decisions. The basic layout of this berth is depicted in Figure 3.

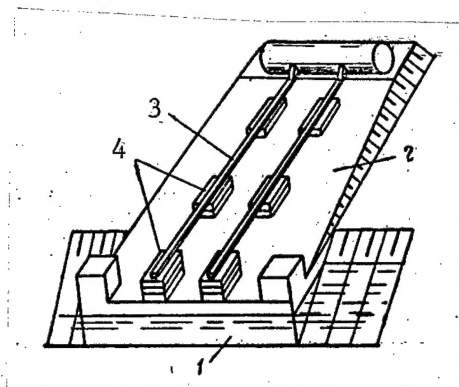


Figure 3. Berth for the Unloading of Heavy Equipment

The berth is a vertical wall 1 with an inclined platform 2, on which plates 4 with beams 3 for the movement of cargo over them from the ship to the shore have been laid. Depending on the water level and the height of the side of the ship the beams 3 are adjusted to different positions by the laying of a different number of plates 4 under them. The cost of construction of such a berth is approximately half as much as the cost of the previously used berths with platforms located at different levels.

When designing hydraulic developments the State Institute of Planning in River Transportation developed new technical decisions, the adoption of which made it possible to decrease the cost and time of construction, as well as to improve the operating qualities of the facilities. Among such decisions are precast reinforced concrete walls of the chambers of locks, the facing of monolithic concrete components with high-strength reinforced plates, safety devices for the protection of the gates against the bumping of ships, the singling out within the hydraulic development of a special small lock for the passage of high-speed passenger ships and the installation of light-weight mechanical equipment.

Radial balancing gates, which are now also being used at other locks, were introduced for the first time at the locks of the Moscow River Lock System. The new type of gate decreases the weight of the mechanical equipment by 2.6-fold, decreases the cost of construction of the end of the lock by 20 percent and the annual operating costs by 30 percent.

In the future when designing hydraulic developments along with the improvement of their designs and equipment it is necessary to devote particular attention to the choice of the optimum dimensions of the chambers of the locks and the navigable spans of dams and to study carefully the future freight turnovers and types of ships, since this influences to the greatest extent the cost of the hydraulic development as a whole. The Instructions on the Designing of Navigable Dams, which were drawn up by the State Institute for Planning in River Transportation, will provide substantial assistance in this.

The choice of the site of ports, shipyards, hydraulic developments and other structures has a great influence on the degree of economy of the design decisions of their construction. Natural conditions (geological, topographic, hydrological),

the availability of local construction materials, transportation routes, the supply with power, water and a sewer system, the harm done to agriculture and fishing--all this influences not only the cost of construction of a project, but also its subsequent operation. Therefore, as a rule, when selecting the construction sites several different versions are examined and the optimum one is chosen only after the careful analysis of all the above-indicated factors.

The configurational and space-layout decisions play a significant role when drawing up the general plans of the projects being designed with the location at them of production, service, general and other buildings. The interconnection of the various buildings and their compact arrangement decrease the consumption of construction materials and thermal energy for their heating and reduces the length of the underground mains and the area of the section being build up. For example, when designing the port of Sarapul, in conjunction with the maintenance and operation base of the fleet and the Borskiy Ship Repair Yard the efficient interconnection of buildings for different purposes made it possible to decrease their area of building by 20 percent and to decrease the consumption of construction materials by 5 percent. It was possible to locate the Moscow River Tekhnikum on a small tract without the demolition of the adjacent buildings only owing to the improvement of the space-layout decisions which were envisaged by the standard plan.

The State Institute for Planning in River Transportation is annually performing an ever increasing amount of work on the designing of main petroleum and gas pipelines on their most complicated sections--at the crossings through large rivers and reservoirs. The decrease of the number of parallel pipes by the increase of the diameter is one of the directions of the decrease of the cost and materials intensiveness of underwater crossings. Another direction is the more extensive introduction of concrete weights for ballasting of the pipes instead of the cast iron weights which are now being used. It is impermissible to use metal as weighting materials, when other, less critical materials are available for this purpose.

The substantial reserves of the decrease of the cost of construction can be put to use, if the requirements of a number of standard documents are revised. According to the Instructions on the Designing of Ship Repair Enterprises of the River Fleet the level of the industrial site should be taken to be not less than 0.5 m above the highest water level with the likelihood of its exceeding of once in 50 years. This too high setting of the level of the grounds leads to excessive amounts of excavation and earth moving. Therefore it is advisable to exclude from the instructions the required overstatement and to set the level of the grounds to be equal to the estimated highest water level without any margins in much the same way as the Norms of the Technological Designing of Ports and Wharves on Inland Waterways.

The requirement on the raising of the berth piloting facilities in the approach canals of locks to 2 m above the highest water level with the likelihood of its exceeding of once or twice in a century is contained in the Construction Norms and Regulations (Construction Norm and Regulation P-55-79). Taking into account the very small probability and duration of such a level, it is inadvisable to carry out this raising. It is necessary to establish the estimated level with the likelihood of its exceeding of once in 10-20 years, which will make it possible to decrease the cost of the berth piloting facilities by 20-30 percent without detriment to navigation. The load-carrying capacity of the structures is not fully

utilized in the standard documents on the calculation of the strength and stability of various structures in connection with the imperfection of the methods cited in them and the inadequate substantiation of the safety factors. The adjustment of the standard documents in conformity with the results of scientific research and current theoretical calculations will make it possible to use more economical components in construction.

The advanced technical decisions in all areas of construction are providing a considerable economic impact. However, their adoption is encountering great difficulties, since the construction organizations when coordinating the plans under various pretexts frequently insist on expensive components and methods of their installation. For example, when working out the plan of the expansion of the Yakutsk port a sheet pile design of the mooring wharf was suggested by the State Institute for Planning in River Transportation. The construction organization, Mostotrest No 10 of the Ministry of Transport Construction, rejected it and suggested its own, more expensive version of the wharf, which consists of reinforced concrete columns, which are drilled into the ground, with a superstructure with the performance of the work behind a protective cofferdam. The USSR State Committee for Construction Affairs examined both versions and recommended the version of the State Institute for Planning in River Transportation for construction. As a result 3 million rubles were saved.

Construction organizations must not be permitted to use less economical decisions as compared with the design decisions which have been elaborated in conformity with the prevailing norms and regulations. At the same time construction organizations should be stimulated more actively for the introduction of advanced design decisions. Only in this case will the greatest economic impact be achieved and will the losses of working time during the designing of projects be reduced.

Much work on the further improvement of planning and estimating is being carried out at the State Institute for Planning in River Transportation. The methods of performing planning and surveying work with the use of computer equipment and the scientific organization of labor are constantly being improved. Socialist competition for economy and thrift and for the high quality and durability of the designs being produced has been developed. A comprehensive system of product quality control, in which the level of the design decisions and their degree of economy are the main criterion of quality, is in operation. In connection with the promulgation of the new instruction SN-202-81 "On the Composition and the Procedure of the Elaboration, Coordination and Approval of Planning Estimates for the Construction of Enterprises, Buildings and Structures" some standards of the enterprise, which are included in the comprehensive system of product quality control, are being corrected or developed anew.

For the purpose of providing procedural assistance to other organizations the State Institute for Planning in River Transportation has drawn up recommendations on the elaboration of a comprehensive system of product quality control for all the planning institutes, which are engaged in the designing of projects of industry and transportation. These recommendations have been endorsed and approved by the RSFSR State Committee for Construction Affairs.

When implementing the decisions of the 26th CPSU Congress, all planning, scientific research, construction and other organizations should combine their efforts and on

the basis of the latest achievements of science and technology should achieve the maximum possible decrease of the cost and the materials intensiveness of the construction of projects and should do everything so that the economy would be economical.

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